

Application for Federal Assistance SF-424

Version 02

* 1. Type of Submission:

- Preapplication
 Application
 Changed/Corrected Application

* 2. Type of Application:

- New
 Continuation
 Revision

* If Revision, select appropriate letter(s):

* Other (Specify)

* 3. Date Received:

12/14/2009

4. Applicant Identifier:

5a. Federal Entity Identifier:

* 5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:

7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name:

The City of Lowell, Inc.

* b. Employer/Taxpayer Identification Number (EIN/TIN):

04-6001396

* c. Organizational DUNS:

079521928

d. Address:

* Street1:

285 Merrimack Street

Street2:

* City:

Lowell

County:

Middlesex County

* State:

MA: Massachusetts

Province:

* Country:

USA: UNITED STATES

* Zip / Postal Code:

01852

e. Organizational Unit:

Department Name:

Planning and Development

Division Name:

Planning and Development

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:

Mr.

* First Name:

Adam

Middle Name:

* Last Name:

Baacke

Suffix:

Title: Assistant City Manager

Organizational Affiliation:

City of Lowell

* Telephone Number:

978.446.7200 x1401

Fax Number:

978.970.4262

* Email:

abaacke@lowellma.gov

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9. Type of Applicant 1: Select Applicant Type:

C: City or Township Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

*** Other (specify):**

*** 10. Name of Federal Agency:**

Environmental Management Consolidated Business Cen

11. Catalog of Federal Domestic Assistance Number:

81.128

CFDA Title:

Energy Efficiency & Conservation Block Grant Program

*** 12. Funding Opportunity Number:**

DE-FOA-0000148

*** Title:**

Recovery Act: Energy Efficiency and Conservation Block Grants: Competitive Solicitation: Retrofit Ramp-up and General Innovation Fund Programs

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

Lowell National Historical Park and Preservation District in Downtown Lowell, Massachusetts

*** 15. Descriptive Title of Applicant's Project:**

Carbon-Neutral Lowell Park and Preservation District

Attach supporting documents as specified in agency instructions.

Add Attachments

Delete Attachments

View Attachments

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16. Congressional Districts Of:

* a. Applicant MA-005

* b. Program/Project MA-005

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment

Delete Attachment

View Attachment

17. Proposed Project:

* a. Start Date: 05/15/2010

* b. End Date: 05/15/2013

18. Estimated Funding (\$):

* a. Federal	9,379,375.00
* b. Applicant	0.00
* c. State	0.00
* d. Local	0.00
* e. Other	56,970,880.00
* f. Program Income	0.00
* g. TOTAL	66,350,255.00

* 19. Is Application Subject to Review By State Under Executive Order 12372 Process?

- a. This application was made available to the State under the Executive Order 12372 Process for review on
- b. Program is subject to E.O. 12372 but has not been selected by the State for review.
- c. Program is not covered by E.O. 12372.

* 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation.)

Yes No

21. *By signing this application, I certify (1) to the statements contained in the list of certifications** and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)

 ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: Ms. * First Name: Courtney

Middle Name: Elizabeth

* Last Name: Knapp

Suffix:

* Title: Economic Development/ Housing Planner

* Telephone Number: 978-454-8021 Fax Number: 978-454-8023

* Email: cknapp@nmcog.org

* Signature of Authorized Representative: Courtney Knapp * Date Signed: 12/14/2009

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*** Applicant Federal Debt Delinquency Explanation**

The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.

Project/Performance Site Location(s)

Project/Performance Site Primary Location I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name:

DUNS Number:

* Street1:

Street2:

* City: County:

* State:

Province:

* Country:

* ZIP / Postal Code: * Project/ Performance Site Congressional District:

Project/Performance Site Location 1 I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name:

DUNS Number:

* Street1:

Street2:

* City: County:

* State:

Province:

* Country:

* ZIP / Postal Code: * Project/ Performance Site Congressional District:

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C.1352

Approved by OMB
0348-0046

1. * Type of Federal Action: <input type="checkbox"/> a. contract <input checked="" type="checkbox"/> b. grant <input type="checkbox"/> c. cooperative agreement <input type="checkbox"/> d. loan <input type="checkbox"/> e. loan guarantee <input type="checkbox"/> f. loan insurance	2. * Status of Federal Action: <input type="checkbox"/> a. bid/offer/application <input checked="" type="checkbox"/> b. initial award <input type="checkbox"/> c. post-award	3. * Report Type: <input checked="" type="checkbox"/> a. initial filing <input type="checkbox"/> b. material change
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4. Name and Address of Reporting Entity:
 Prime SubAwardee

* Name: City of Lowell, Ind
* Street 1: 285 Merrimack Street Street 2:
* City: Lowell State: MA: Massachusetts Zip: 01852
Congressional District, if known: MA-005

5. If Reporting Entity in No.4 is Subawardee, Enter Name and Address of Prime:

6. * Federal Department/Agency: US Department of Energy	7. * Federal Program Name/Description: Energy Efficiency & Conservation Block Grant Program CFDA Number, if applicable: 81.128
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8. Federal Action Number, if known:	9. Award Amount, if known: \$
--	---

10. a. Name and Address of Lobbying Registrant:

Prefix * First Name Courtney Middle Name
* Last Name Knapp Suffix
* Street 1 Street 2
* City State Zip

b. Individual Performing Services (including address if different from No. 10a)

Prefix * First Name Courtney Middle Name
* Last Name Knapp Suffix
* Street 1 Street 2
* City State Zip

11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when the transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

* Signature: Courtney Knapp
* Name: Prefix * First Name Courtney Middle Name
* Last Name Knapp Suffix
Title: Economic Development/ Housing Planner Telephone No.: 978-454-8021 Date: 12/14/2009

I. Project Objectives

A. Introduction

Since its inception, the City of Lowell has been renowned for its ability to adapt innovatively to changes in the social, economic, and environmental climates. Incorporated in 1822 as the first planned industrial city in the United States, Lowell rose to prominence as the seat of the textile industry during the American Industrial Revolution, serving as a gateway city to European and Canadian immigrants arriving in the United States in search of economic opportunities. By 1850, Lowell-- then the second-largest city in the Commonwealth of Massachusetts-- had the largest industrial complex in the U.S, being home to 40 textile mills, 10,000 looms, and 10,000 millworkers-- producing 50,000 miles of cloth a year. During the four decades between 1880 and 1920, the City's population increased by 89.6%, from 59,475 in the former year to its peak of 112,759 in 1920.

The industrial center of the City was impacted significantly by the Great Depression of the 1930's, and over the next several decades, Lowell experienced the same economic and environmental blows that other manufacturing-based communities were suffering in the face of rapid deindustrialization. By 1940, only three major textile mills were left in Lowell, the shoe industry was failing, and 40% of the population was "on relief." Twenty years later, the City's total population had declined to 92,107 people; employment opportunities had dwindled, and the City was left to figure out what to do about the largely vacant and/or underutilized mill system located in its Downtown center.

In response to this decline, the City embarked upon a series of urban revitalization initiatives intended to re-create itself and remain a viable, vibrant gateway community. Perhaps the City's greatest success rests in the designation of Lowell's downtown district as the first urban National Historic Park in the United States in 1978. With this designation came an influx of much-needed resources, which allowed the City to preserve the historic Downtown area as opposed to razing it as many other American cities were doing during the era of Urban Renewal in the 1960's and 1970's.

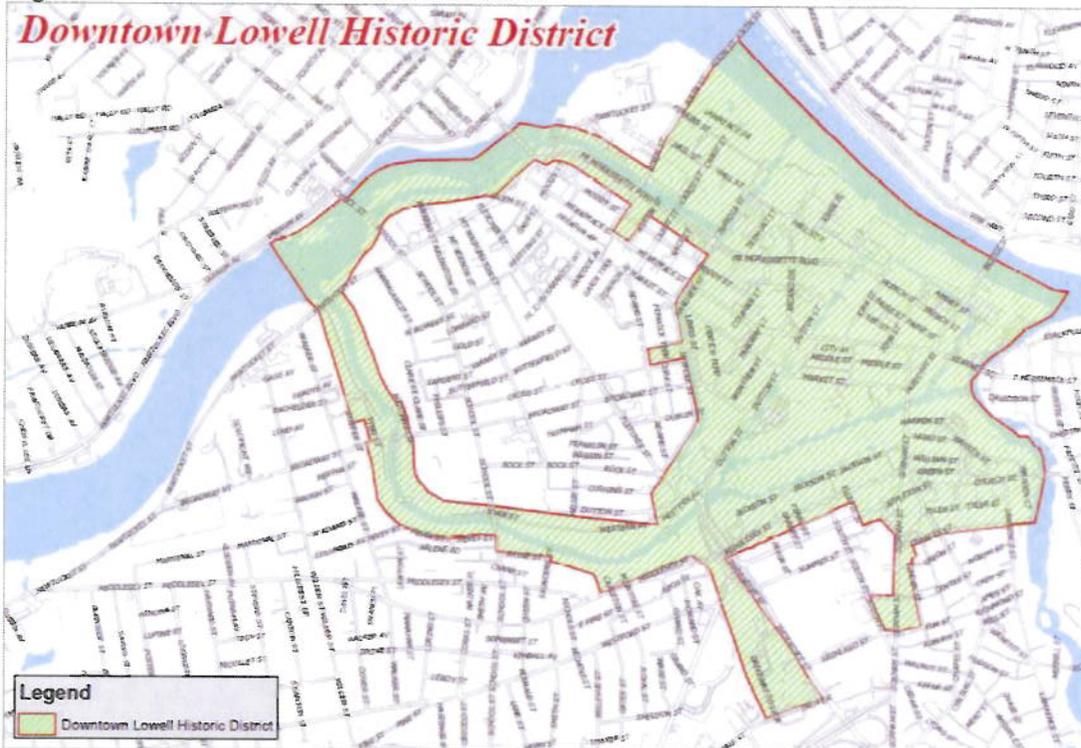
Since then, Lowell has continued to recreate itself while staying true to its history. Over the past decade, the City has emerged as a center for the emerging Creative Economy, transforming the formerly vacant downtown mills into affordable artist work/live spaces, galleries, and museums highlighting the City's dynamic industrial past. The presence of the academic and research communities at the University of Massachusetts--Lowell and Middlesex Community College has also played an important role in downtown revitalization, in several cases rehabilitating historic structures and transforming them into classroom, laboratory, and other institutional spaces.

Presently, redevelopment in the downtown area is guided and supported by a series of zoning overlay districts, including the Downtown Lowell Historic District (represented on the next page in Figure 1), an Artist Overlay District, the Smart Growth District, and most recently, the Hamilton Canal Priority Development District. The City has received a number of honorable distinctions for its commitments to historic preservation and sustainable urban development, including being named as one of the National Trust for Historic Preservation's "Dozen Distinctive Destinations" in 2000, being featured as a US EPA Brownfields Showcase Community, and being designated as one of eleven "Gateway Cities" in Massachusetts by the Brookings Institution in 2007.

In addition to historic preservation being one of its fundamental goals, the City and its local and regional partners are committed to promoting Lowell as a center for economic activity. To this end, the City of Lowell is considered an Economic Target Area (ETA) by the US Economic Development Administration. This designation makes the City eligible for the Massachusetts Economic Development Incentive Program (EDIP), which aims to stimulate economic growth by offering incentives to businesses that expand, relocate or build new facilities in an ETA. An Economic Opportunity Area (EOA) is an area or

several areas within a designated ETA of particular need and priority for economic development. Presently, there are eight EOA's located in the City of Lowell, including the Downtown area. The City is also considered a HUBZone by the US Small Business Administration—a designation that bolsters local economic development by providing federal contracting preferences to small businesses located within HUBZones. Finally, the creation of the Hamilton Canal Priority Development District is expected to garner \$500 million dollars worth of commercial, residential, and community space development in the heart of Downtown, including the revitalization of several significant historic mill structures and buildings. The receipt of funds to support the proposed *-Neutral Lowell Park and Preservation District* initiative will ensure that future economic development initiatives in the downtown are in line with environmental as well as economic sustainability goals.

Figure 1: Downtown Lowell Historic District



Source: City of Lowell Division of Planning and Development

It is obvious from these past achievements that the City of Lowell has the capacity to embark upon and follow through with planning initiatives which transcend commonly-held notions about the sacrifices inherent to urban revitalization. As described above, during the era of Urban Renewal Lowell broke from traditional notions of economic redevelopment and illustrated that commitments to economic revitalization and historic preservation are not mutually exclusive. Today, the City seeks to create a new milestone by proving that historic preservation goals are not antithetical to energy efficiency and environmental sustainability goals by creating a comprehensive and ongoing energy efficiency retrofit program for buildings located in the downtown district. It is upon this ground that Lowell is seeking \$ 9,845,344 from the Recovery Act Energy Efficiency and Conservation Block Grant Program (EEGBG) to embark upon the *Carbon-Neutral Lowell Park and Preservation District* initiative.

B. Objectives and Goals

The following four objectives guide the proposed *Carbon Neutral Lowell Park and Preservation District* initiative.

1. Improve the Downtown Historic Park District's Carbon Footprint

The proposed *Carbon-Neutral Lowell Park and Preservation District* project will allow the City of Lowell to partner with utilities providers, local business owners, the Lowell Finance and Development Corporation (LFDC), and members of the University of Massachusetts—Lowell research community to develop and implement an energy efficiency retrofitting program with the potential to significantly decrease the Downtown Lowell/ National Historic Park district's dependence on traditional fossil fuel energies. Funding will be used to supplement and augment efficiency programs offered by National Grid, the local gas and electric utility provider, for the energy efficiency retrofit of historic residential and commercial buildings throughout the 250-acre Downtown area.

2. Develop a Sustainable and Replicable Model for Energy Efficiency in Historic Buildings and Downtown Districts

The *Carbon-Neutral Lowell Park and Preservation District* initiative will demonstrate the compatibility of seemingly-at-odds commitments to energy efficiency/urban greening and historic preservation. The innovative and self-sustaining retrofit model developed by the City in partnership with National Grid, the LFDC, UMass-Lowell, and private property owners to address these dual concerns will ultimately serve as a framework to be replicated by other communities looking to improve the energy efficiency of their own historic buildings and districts.

3. Create and Retain Jobs

The *Carbon-Neutral Lowell Park and Preservation District* initiative will create nearly 325 critically-needed jobs for residents in the City over a six year period. This objective is particularly important given that the local 24-month average unemployment rate (8.6%) in Lowell is 1.5% higher than the National rate (7.1%)¹,-- a difference which qualifies the community as an Economically Distressed Area (EDA) according to US Economic Development Administration (US EDA) criteria.

4. Promote Multi-stakeholder Partnerships

The success of the *Carbon-Neutral Lowell Park and Preservation District* initiative depends greatly on the City's ability to coordinate and maintain meaningful and lasting partnerships with a variety of private, public, nonprofit and institutional stakeholders. In the past, city staff have been commended for their innovative approaches to public-private partnerships. The City has already been in discussion with a number of key players involved with this partnership initiative.

II. Merit Review Criteria Discussion

The following section provides a detailed discussion of the *Carbon-Neutral Lowell Park and Preservation District* initiative's eligibility for funds based on the four (4) Merit Review Criteria as outlined in the *Financial Assistance Funding Opportunity Announcement*.

A. Leveraging and Sustainability

1. Leveraging EECBG Grant Monies

The \$9,845,344 in requested EECBG monies will be used to support five program components: "large project incentives," "small project incentives," "Net Zero Demonstration Projects," "loan programs," and "grant programs." Additionally, funds would be used to support data collection measures by providing

¹ Difference is based on the 24-month average between November 2007 and October 2009.

funds for several UMass-Lowell graduate student assistantships; allow the City to provide salaries and benefits to three (3) Project Managers charged with overseeing the program; pay a loan origination fee to the Lowell Development & Financial Corporation (LDLC) to support an ongoing loan fund; pay for a marketing campaign of the program; and allocate resources to the grant administration process. The proposed initiative will employ an innovative financing strategy which will allow it to become self sustaining and continue well beyond the three-year grant period. Budget details are provided in the supplemental documents titled “SF424A.xls” and “budget.pdf.”

The City of Lowell’s proposed *Carbon-Neutral Lowell Park and Preservation District* leverages the Retrofit Ramp-up dollars by maximizing existing incentives currently available through energy efficiency programs offered by National Grid, State and Federal incentives, and direct investment by the property owner or owners who will receive the direct benefit of long term energy savings by participating in the program. *We expect to leverage outside funding at a ratio of approximately six dollars for every dollar (6:1) of EECBG funds expended.* The amount of funds leveraged will vary by building type and the magnitude of energy efficiency sought in the retrofit. Table 1 below illustrates how these funds will be leveraged.

Table 1: Downtown Lowell EECBG Retrofit Ramp-Up Fund Leverage

Component		Quantity	Unit Cost	Total
Large Projects				
	EECBG Funds	8	\$ 500,000	\$ 4,000,000
	Utility Direct Grant	8	\$ 1,009,000	\$ 8,072,000
	Owner Contribution	8	\$ 500,000	\$ 4,000,000
Small Projects				
	EECBG Funds	20	\$ 75,000	\$ 1,500,000
	Utility Direct Grant	20	\$ 105,000	\$ 2,100,000
	Owner Contribution	20	\$ 25,000	\$ 500,000
Net Zero Demonstration Projects				
	EECBG Funds	2	\$ 1,687,500	\$ 3,375,000
	Utility Direct Grant	2	\$ 759,000	\$ 1,518,000
	Owner Contribution	2	varies	\$ 35,000,000
Grant Administration				
	UML Assistanceships & Faculty TA Support	5	\$ 20,000	\$ 100,000
	Project Manager Salary & Benefits	3	\$ 75,000	\$ 225,000
	LDLC Loan Fees (1 pt)			\$ 44,375
	PR & Marketing Program			\$ 60,000
	Grant Administration			\$ 75,000
	Cumulative Fund Balance**			\$ 5,780,880
	Total EECBG Funds			\$ 9,379,375
	Total Leveraged Funds			\$ 56,970,880
	Total Utility Contribution			\$ 11,690,000
	Owner Contribution			\$ 45,280,880
	Total			\$ 66,350,255

Source: City of Lowell Division of Planning and Development

Partnering with National Grid allows the proposed Carbon-Neutral district to take advantage of considerable grants and technical assistance provided through their commercial energy efficiency

programs. Leveraged funds from National Grid include in-kind contributions from Whole Building Assessments performed by National Grid contractors.

Property owners and managers will be contributing the largest proportion of funds by contributing to the initial cost of energy efficiency retrofits and repaying loans administered by the Lowell Development and Finance Corporation (LDFC). Loan repayments will replenish the LDFC’s *Carbon-Neutral Lowell and Park Preservation District* loan fund to finance additional retrofit projects after the initial 3-year timeframe. \$4.5 million of the grant will be granted to the Lowell Development and Financial Corporation (LDFC) to capitalize the *Carbon Neutral Lowell Park and Preservation District* energy efficiency loan fund and will be managed by the LDFC. All loans will be drawn from the pool and repayment of the principal and 225 basis points from the interest payments will be used to make new loans as funding availability allows. Principal and interest payments returned to the loan pool are projected to generate an additional \$279,200 per year to support new loans at program stabilization in year three.

Our Budget estimate does not take into account renewable energy projects that property owners and managers may take advantage of where considerable State and Federal resources may be leveraged as a supplement to funds expended through our proposal, and would likely increase our ability to leverage additional funds.

Summaries of the various incentive programs are provided below in an effort to demonstrate the viability of the proposed financing mechanism.

Large Project Incentives

Funding would be used to incent owners of mill complexes and other comparably sized properties in the Downtown to undertake energy retrofit projects. Properties must exceed 150,000 square feet of gross building area to qualify. The grant would initially capitalize the program to support up to 8 projects with an average total project cost of \$2M each. After all available utility company rebates are applied (estimated at 50%) project costs would be shared equally between the City program and the property owner. One half of the program funds would be applied to the project as a direct grant to pay the premium costs associated with conducting this retrofit work in a manner consistent with the Secretary of the Interior’s Standards for Historic Preservation. The other half of the program contribution would be in the form of a loan, bearing 3% APR interest, amortized over 20 years, secured by a subordinate mortgage, and transferable to subsequent owners upon sale or transfer of the property. Total program contributions would be capped at \$500,000 (\$250,000 grant plus a \$250,000 loan). The proposed financing model for large projects is detailed below in Table 2.

Table 2: Financing Prototype for Large Retrofit Projects

Funding Component	Funding Amount
Average Total Cost per Project	\$ 2,000,000
Utility Rebates	\$ 1,000,000
Owner Contribution (1:1 match)	\$ 500,000
Grant: EECBG	\$ 250,000
Loan: EECBG	\$ 250,000

Source: City of Lowell Division of Planning and Development

Figure 2 below is a flyover photograph of the Wannalancit Mill complex in downtown Lowell. The complex, which consists of four interconnected historic mill buildings totaling more than 400,000 sq ft., served as a textile mill during the height of Lowell’s industrial activity, but fell into obsolescence and remained underutilized until private investors devoted \$19,000,000 into the rehabilitation of the complex

during the 1990's. Presently, the complex serves as high tech office space and houses several of UMass-Lowell's academic research centers. The City anticipates that retrofitting a facility on scale with the Wannalancit Mills would qualify as a "large project" under the *Carbon-Neutral Lowell Park and Preservation District* initiative.

Figure 2: Wannalancit Mills in Downtown Lowell



The Wannalancit Mills provide more than 400,000 sq. ft. of office, research and development, and institutional space to business and university partners in Lowell. The Division of Planning and Development anticipates that as many as eight (8) buildings of this scale could be retrofitted under the Carbon-Neutral Lowell Park and Preservation District initiative. Doing so could reduce energy usage by as much as 5,200,000 Kwh over six years.

Source: Pictometry International 2008

Small Project Incentives

This program would be similar to the program terms described above except the program would pay 75% of the project costs after rebates are applied to a maximum of \$100,000 per project. The City anticipates capitalizing the program to support up to 20 projects over a six year period. The proposed financing model for small projects is detailed in Table 3 below.

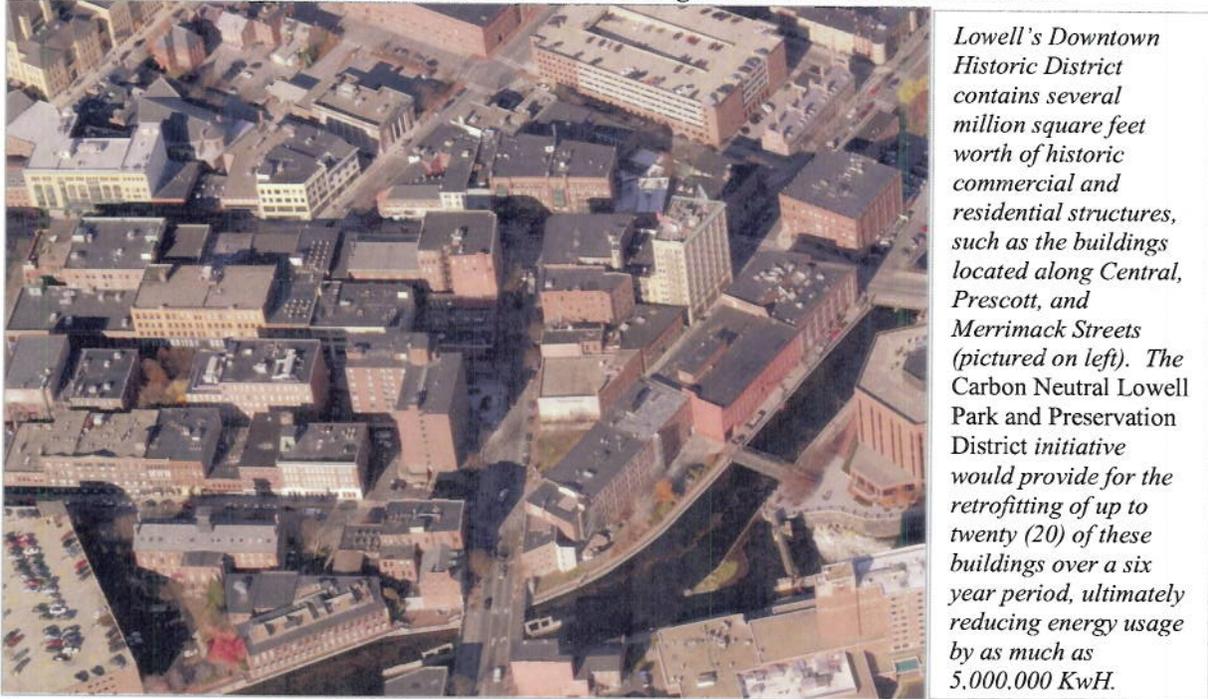
Table 3: Financing Prototype for Small Retrofit Projects

Funding Component	Funding Amount
Average Total Cost	\$200,000
Utility Rebates	\$100,000
Owner Contribution (1:3 match)	\$25,000
Grant: EECBG	\$37,500
Loan: EECBG	\$37,500

Source: City of Lowell Division of Planning and Development

Figure 3 on the next page offers a flyover photograph of several dozen historic commercial buildings located in the Downtown area. The *Carbon Neutral Lowell Park and Preservation District* initiative would allow for the retrofitting of as many as twenty of these buildings over six years, with the potential to continue retrofitting well beyond this time period using the proposed LDFC loan program, which is further described below.

Figure 3: Historic Commercial and Institutional Buildings Located in Downtown Lowell



Lowell's Downtown Historic District contains several million square feet worth of historic commercial and residential structures, such as the buildings located along Central, Prescott, and Merrimack Streets (pictured on left). The Carbon Neutral Lowell Park and Preservation District initiative would provide for the retrofitting of up to twenty (20) of these buildings over a six year period, ultimately reducing energy usage by as much as 5,000,000 Kwh.

Source: Pictometry International, 2008

Net Zero Energy Demonstration Projects

Only available to non-profit and public entities, this program would support 75% of the project costs after rebates for energy retrofits, including renewable energy installation with a goal toward achieving zero net energy buildings. The program would be capitalized to support two projects with up to \$1,700,000 in grant and loan funds in a manner similar to the program terms described above. The proposed financing model for Net Zero Demonstration Projects is detailed below in Table 4.

Table 4: Financing Prototype for Net Zero Energy Demonstration Projects

Funding Component	Funding Amount
Average Total Cost	\$3,000,000
Utility Rebates	\$750,000
Owner Contribution (1:3 match)	\$562,500
Grant: EECBG	\$843,750
Loan: EECBG	\$843,750

Source: City of Lowell Division of Planning and Development

It is evident from Table 1 that the bulk of the funding leverage for the *Carbon Neutral Lowell Park and Preservation District* initiative comes from the two non-profit "net zero" projects (\$36,518,000). This component of the project will allow organizations such as the Lowell Community Health Center to significantly reduce their carbon footprints. The Lowell Community Health Center is in the process of redeveloping approximately 100,000 sq. ft in a mill building located at 26 Jackson Street as part of the Hamilton Canal Priority Development Initiative. The redevelopment of this site, which is represented in Figure 4 below, will allow the Center to increase the services that they offer to patients considerably, including increasing the number of patients seen by 10,000 per year, more than doubling the number of available exam rooms, and providing a pharmacy and dental services. Additionally, the expansion will

create new jobs and improve the overall quality of life in the Hamilton Canal District. This site could potentially serve as a Net Zero Demonstration Project, thus providing an environmental and economic benefit to the community as well as a social one.

Figure 4: Lowell Community Health Center Expansion Site



The redevelopment of 26 Jackson Street will allow the Lowell Community Health Center (LCHC) to significantly expand the services that they provide to residents in the community. As a potential Net Zero Demonstration Project, the Center could also provide environmental and economic benefits by incorporating energy efficiency and renewable energy technologies into the revitalization of the site. LCHC's expansion is one component of the \$800 M Hamilton Canal Priority Development initiative.

Source: Pictometry International, 2008

Loan Programs

Loans would be originated and serviced by the Lowell Development and Financial Corporation. A loan program would be initially capitalized with approximately \$4,500,000 from which all of the incentive loans described above would be drawn. All payments would be returned to the revolving fund and would be used to finance new loans as funding becomes available. The LDFC would receive a loan origination fee for each loan of one point, paid from grant funds. The LDFC would also receive 75 basis points of the interest paid on each loan with each payment. The remaining 225 basis points of interest would be returned to the fund along with 100% of the repaid principal. The program is anticipated to generate approximately \$275,000 in annual revenue from the principal and interest payments on the original loans to support additional loans.

Grant Programs

Grant funds would be paid directly by the City to the property owners on a reimbursement basis. The grant programs would be capitalized with approximately \$4,500,000. Grant programs would no longer be available once the initial capital outlay is expended unless it can be replenished using new grant sources, including potential Congressional funding for annual entitlement grants under the EECBG program, which could then be used to match the \$275,000 in annual loan proceeds in the revolving fund.

2. Market Transformation

As the *Carbon-Neutral Lowell Park and Preservation District* project transitions from Year 3 to Year 4, EECBG funds will be fully expended according to grant award guidelines. At the conclusion of year 3, we anticipate that the energy savings realized from the buildings that have been retrofitted under the

program will reduce the total electricity consumption of the Park and Preservation District to below the level of renewable energy production in the district.

The project will continue to have a direct impact Lowell's historic downtown by utilizing loan repayments to support additional projects. As energy costs rise and payback points for retrofit investments adjust accordingly we anticipate that the grant component that is included in the first three years of the program may no longer be necessary to make projects economically viable and attractive to building owners. It is also anticipated that the model established will encourage other owners of historic properties in Lowell and elsewhere to recognize the compatibility and value of blending historic preservation with energy efficiency.

The magnitude of the proposed investment will encourage contractors and others in the development community to increase their understanding energy efficient retrofits and will translate into a stronger body of knowledge as well as larger number of builders/contractors capable of providing deep energy retrofits to building owners and operators. As builders and contractors apply energy efficient construction and rehabilitation processes we expect costs will go down for both labor and materials as both are applied more broadly.

The total number of building retrofits will greatly enhance the understanding of energy efficiency retrofits for historic buildings and buildings built to historic standards. We expect knowledge and experience gained from these projects will benefit builders, property owners and managers, and contractors nationwide. Regionally, these projects will serve as models for the development community when rehabilitating buildings in historic downtowns.

B. Project Impact

1. Achieving Economy of Scale and Mitigating Associated Risks

The energy efficiency loan pool funded by EECBG grant funds and managed by LDFC *Carbon-Neutral Lowell Park and Preservation District* establishes a similar funding mechanism for financing energy efficiency retrofits as the PACE program. Loans are secured by subordinate mortgages and are transferable to subsequent owners upon sale or transfer of the property. Although the transferable loan as we have proposed is not identical to a PACE loan in that a subordinate mortgage is at risk if a property is foreclosed upon, it is on stronger footing with the obligation to pay transferring to the subsequent owner. More importantly, the proposed loan will spread the payment term over a longer period of time than would likely be available otherwise and the lack of a full repayment due on sale would make it more likely that a household facing unemployment, high medical bills, or some other factor that causes them to need to sell would be able to sell for enough to cover their mortgage debt. Since debt incurred from the proposed loan is not added to a homeowner's mortgage as an obligation to pay on sale, they are less likely to wind up underwater in a declining market.

The *Carbon-Neutral Lowell Park and Preservation District* also realizes economies of scale by utilizing a framework similar to the PACE program. Borrowers will experience overhead and transaction cost efficiencies through grant and loan acquisition facilitation and loan pool management by the Lowell Development and Financial Corporation, a not-for-profit lender.

2. Quantitative Impacts

This subsection summarizes the anticipated impacts of the *Carbon-Neutral Lowell Park and Preservation District* initiative. It includes an analysis of expected energy consumption and carbon dioxide emissions reductions, as well as anticipated job creation numbers. The section concludes with a discussion of the program as a model that can be applied to other communities seeking to retrofit their historic downtowns.

a. Reduction in the Downtown's Carbon Footprint

As outlined below Table 5 below, the Downtown Lowell district is presently estimated to consume 369,436,663 Kwh annually between residential and nonresidential uses. Among residential properties, gas (Kwh) accounted for the largest percentage of this usage (67.6%), followed by oil (Kwh) (23.2%) and electricity (19.1%). Similarly, gas (Kwh) accounted for the largest percentage of non-residential energy usage (60%), followed by electricity (Kwh) (40%). At this rate, it is estimated that residential and non-residential operations are emitting 28,609 and 80,651 MMT of Carbon Dioxide (CO2) annually, totaling 109,260 MMT per year.

Table 5: Estimated Annual Energy Usage in Downtown Lowell

Land Use	Unit of Measurement	Total	Comments
Residential			
	Housing Units	3,234	Census 2000 total plus new housing units built since
	Population	5,808	Estimated using 2000 persons/household downtown
	Electricity (Kwh)	20,341,860	Assumes 6,290 Kwh/household
	Gas (MMBTU)	209,110	Assumes 64.66 MMBTU/household
	Gas (Kwh)	61,322,710	
	Oil (MMBTU)	84,343	Assumes 26.08 MMBTU/household
	Oil (Kwh)	24,733,935	
	Total Residential (Kwh)	106,398,505	
Non-Residential			
	Total Building SF	9,537,056	Based on Assessor's Data
	Electricity (Kwh)	104,907,616	Assumes 11 Kwh/SF
	Gas (MMBTU)	539,225	Assumes 55 cf/SF and 1,028 BTU/ct
	Gas (Kwh)	158,130,541	
	Total Non-Residential (Kwh)	263,038,157	
Total Use (Kwh)		369,436,663	

Source: City of Lowell Division of Planning and Development

By partnering with National Grid and the Lowell Finance & Development Corporation to provide financial incentives in the form of loans and grants as described above, the City estimates that as many as 47 individual buildings could be retrofitted over a period of six years. Table 6 below illustrates the estimated annual kilowatt hour savings for each of the six years of the initial program period. According to these estimates, approximately 80% of the building retrofits will occur during the first three years of the program, yielding additional utility savings of 5,200,000 Kwh, 2,600,000 Kwh, and 1,000,000 Kwh per year, respectively. Following the end of the three year grant cycle, the proposed loan program will allow for an additional three (3) retrofits per annum, with utility savings averaging 300,000 Kwh.

Table 6: Average Utility Savings through Historic Building Retrofit Program

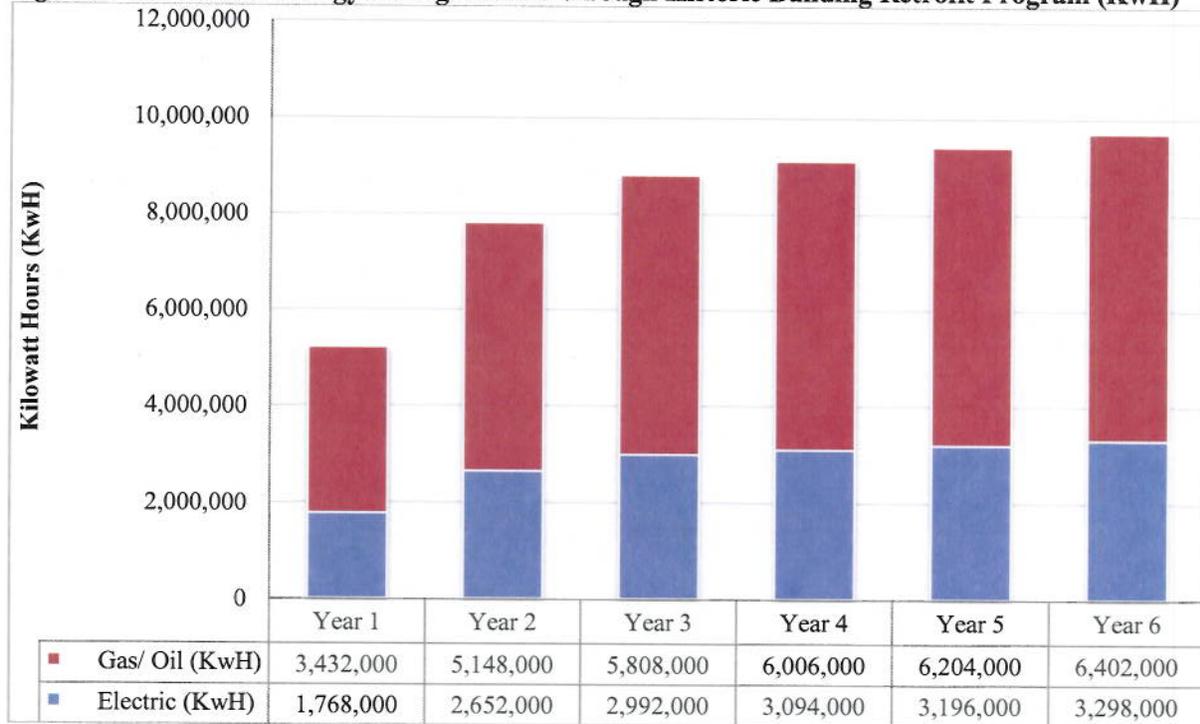
Metric	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number of Buildings Retrofitted	19	13	6	3	3	3
Average Utility Savings (Kwh)	5,200,000	2,600,000	1,000,000	300,000	300,000	300,000
Electric (Kwh)	1,768,000	884,000	340,000	102,000	102,000	102,000
Gas/ Oil (Kwh)	3,432,000	1,716,000	660,000	198,000	198,000	198,000

Source: City of Lowell Division of Planning and Development

Figure 5 on the next page tracks estimated cumulative kilowatt hour savings over the proposed six year period. According to these calculations, energy efficiency retrofit improvements have the potential to reduce total Kwh usage in the Downtown Historic District by as much as 50,000,000 Kwh over six years. These reduction estimates include retrofit projects initiated during the three year grant period as

well as those performed once the grant period has concluded and the program has become financially independent and self-sustaining.

Figure 5: Cumulative Energy Savings Gained through Historic Building Retrofit Program (KwH)



Source: Northern Middlesex Council of Governments

This reduction would have the cumulative effect of reducing CO2 greenhouse gas (GHG) emissions by as much as 230,117 million metric tons (MMT) over six years. Table 7 below illustrates the estimated annual and cumulative number of retrofitted buildings and their corresponding CO2 green house gas emissions reductions over the initial six year program period. The project impact metric figures are detailed further in the *Project Impact Table* included in Appendix G of this grant application.

Table 7: Estimated Number of Retrofitted Buildings and Resulting CO2 Green House Gas (GHG) Emissions Reduction (MMT)

Time Period	Annual		Cumulative	
	Number of Buildings Retrofitted	CO2 GHG Emissions Reduction (MMT)	Number of Buildings Retrofitted	CO2 GHG Emissions Reduction (MMT)
Year 1	19	28,736	19	28,736
Year 2	13	9,831	32	38,567
Year 3	6	1,745	38	40,312
Year 4	3	261	41	40,573
Year 5	3	261	44	40,834
Year 6	3	261	47	41,095
Totals	47		47	230,117

Source: City of Lowell Division of Planning and Development; Northern Middlesex Council of Governments

Another goal of the program is to leverage the clean energy produced by the Boott Mills/Enel North America hydropower production facility to help the Downtown area achieve carbon neutrality. Currently,

the Boott facility produces 118,260,000 Kwh of energy annually.² At this rate, the Downtown district could achieve carbon neutrality if it were able to conserve an additional 251,176,663 Kwh per year through various retrofit projects.

b. Job Creation and Retention

As Table 8 below illustrates, the *Carbon-Neutral Lowell Park and Preservation District* initiative has the potential to create or retain as many as 325 jobs over the course of six years. Because the majority of retrofitting will occur during the first three years, the bulk of job creation and retention will also occur during the 3-year grant period, with approximately fifteen (15) jobs created or retained annually in years four, five, and six.

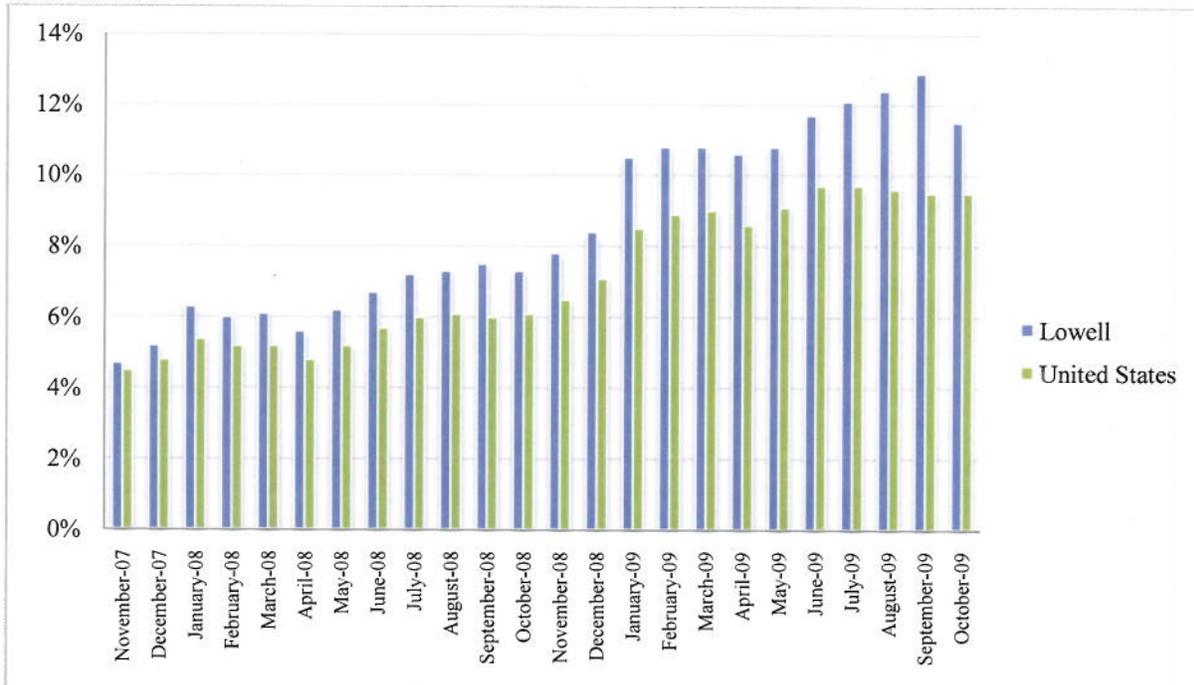
Table 8: Estimated Job Creation and Retention

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Jobs Created or Retained	160	90	30	15	15	15
Number of Buildings Retrofitted	19	13	6	3	3	3

Source: City of Lowell Division of Planning and Development

Job creation is incredibly important to the City, particularly given the current economic recession’s impact on the labor market. The City of Lowell’s unemployment rate has consistently been higher than the national and state averages, as well as higher than the rates for communities across the region. Figure 7 below compares Lowell’s monthly unemployment rates to the national average over a twenty-four (24) month period (November 2007 through October 2009).

Figure 7: Comparison of Lowell’s Unemployment Rate to the National Average: November 2007-October 2009



Source: Massachusetts Department of Employment Security; US Bureau of Labor Statistics

² This figure assumes 75% of maximum permitted capacity to compensate for seasonal variations in river flows.

As previously discussed, Lowell's 24-month average is 1.5% higher than the nation's, qualifying the City as an Economically Distressed Area (EDA) according to the US Economic Development Administration. Since January 2009, the City's rate has been greater than 1.5% above the national rate; when the unemployment rate in Lowell peaked in September 2009 (12.4%), it was 3.4% higher than the national rate (9.5%). Although the most recent month of data points to a decline in the local unemployment rate (11.5%), it is still 2% higher than the national average of 9.5%. The jobs created through the *Carbon-Neutral Lowell Park and Preservation District* initiative over the next several years will have a positive effect on local employment, providing well-paying jobs and workforce training opportunities in a critically important emerging industry.

In an effort to give preference to local union contractors, the City will establish a preapproval process for contractors wanting to do work for this program. The process will involve inviting credentials and references, instituting a short training and orientation with National Grid's auditors and the National Park about how to do energy retrofit work in historic buildings, and then maintaining a list of contractors who have completed the process. We would then distribute the list to the property owners who participate in the program. Final decision on who to invite bids from will rest with the property owners, but many will likely draw from our list.

c. The Lowell Model for Energy Efficient Historic Downtowns

The City of Lowell is endeavoring to create a general model of how energy efficiency upgrades can meet historical preservation standards. Similar to how Lowell disproved conventional wisdom that historic preservation and economic development are inherently in conflict, we anticipate that the *Carbon-Neutral Lowell Park and Preservation District* initiative will help debunk the perception that energy efficiency cannot be achieved in historic buildings while also adhering to historic standards. In part, this shift in consciousness will be achieved through heavy publicity of the program. This marketing campaign, which will go well beyond the target district to ensure that the message is disseminated throughout the City, will be detailed in the proceeding section of this grant application.

Ultimately, we anticipate that Lowell's program will serve as a model for other communities seeking to make their historic buildings and districts more energy efficient. Similar to Lowell, these communities can undertake the role of facilitator to bring local utility providers and historic site operators to the table with the goal of increased energy efficiency. Other communities with less stringent historic preservation regulations may even experience greater success than Lowell, considering that redevelopment here is subject to approval from both the Lowell Historic Board and Lowell National Historical Park.

C. Project Approach

This section summarizes the proposed marketing strategy and addresses how the initiative will overcome market barriers and National Environmental Policy Act (NEPA) regulations.

1. Marketing and Outreach

The City of Lowell will engage consultant(s) to manage all aspects of the marketing and promotion of the program. The consultant(s) will prepare digital and printed program information collateral as well as develop and manage a promotional website for the *Carbon-Neutral Lowell Park and Preservation District* initiative. These resources will be distributed to all eligible property owners in the district through multiple channels, including direct mailings to tax record addresses and email blasts to distribution lists maintained by various City agencies that work with target area stakeholders. In addition, the City and its consultants will engage in an aggressive effort to promote the program in the Boston regional media market. This public relations program will have three goals:

1. Promote the program to eligible participants;
2. Promote the program to the general public for purposes of educating property owners about retrofitting historic buildings for energy efficiency and encouraging parties outside the program's target area to take advantage of rebate programs and other state and federal incentives to make similar retrofits;
3. Promote the efforts of the partners, including the Department of Energy, to implement this key initiative.

This contract is estimated to cost approximately \$80,000, with \$51,000 for a 15-month public relations/media outreach campaign and \$29,000 for the production and distribution of marketing materials. The marketing will need to begin immediately in order to attract program participants and begin projects quickly in the first year. The City is prepared to utilize existing vendors, subject to the restrictions of applicable procurement laws, to facilitate a quick implementation effort.

Program marketing has already begun and several significant property owners have expressed interest in participating (support letters included). With funding, we anticipate that we will be able to engage in a multi-faceted marketing and promotion strategy including direct mailings to all taxpayers in the district, email blasts to various mailing lists of district stakeholders (including arts & cultural groups, business groups, downtown residents, and historic preservation groups), a web presence, and an aggressive public relations campaign.

The funding structure has been designed to maximize the use of existing rebate programs from the utility companies and utilize an attractive balance of grant and loan funds, which will result in minimal up front capital outlays for building owners and ongoing debt servicing costs which are below the savings in energy expenses that will be realized from the improvements made. By allowing the core loan funding to be transferable to successors and assigns, the program avoids a potentially burdensome debt repayment obligation on sale or transfer of the property which might discourage the initial investment.

The program has identified key partners for all program components who will help ensure its successful implementation. The City of Lowell Division of Planning and Development (DPD) has a proven track record managing grant programs as well as building rehabilitation programs (including a housing rehab program that has operated successfully for more than 25 years). The LDFC has a 30-year track record managing loan programs to support real estate development and redevelopment projects and is supported by several local financial institutions whose leaders sit on its board of directors. National Grid currently operates several successful building energy efficiency rebate programs and has a well-established program for energy audits and technical assistance which will be utilized for this program. The Lowell Historic Board and Lowell National Historical Park have been providing technical assistance to property owners engaged in historic preservation projects for over 25 years. The University of Massachusetts—Lowell's College of Engineering has worked with the Division of Planning and Development over the past year to support a "Getting to Zero" deep energy retrofit contest for small residential properties in the city. The role played by the students and faculty in that program is consistent with the role anticipated under this proposed effort.

2. Addressing Market Barriers

In addition to lack of awareness and misconceptions about energy efficiency retrofits among property owners which will be countered by our marketing program as well as concerns about economic payback which are mitigated by the grant and favorable loan terms of the proposal, the primary impediment for property owners may be discomfort with identifying and securing appropriate contractors. DPD intends to establish a program for contractor prequalification similar to the one we currently operate for our housing rehab program that will simplify this process for less sophisticated property owners. This approach also enjoys the support of local trade unions.

The most significant perceived regulatory and market barrier faced by property owners in Lowell's Park and Preservation District is the fear that energy efficiency measures will conflict with historic preservation standards imposed by the Lowell Historic Board. Property owners may feel as though it's not financially feasible to address both preservation and efficiency standards. The City of Lowell intends to overcome this barrier by enlisting historic preservation authorities in the program as providers of technical assistance and incenting retrofits with grant and loan programs.

3. National Environmental Policy Act (NEPA) Compliance

It is anticipated that the only NEPA threshold that this proposed program will encounter is historic preservation. Because the project proposes to impact numerous contributing structures to a historic district listed on the National Register of Historic Places, coordination with state and federal regulatory authorities will be required. However, because the project proposes to address energy retrofits within the parameters of the Secretary of the Interior's Standards for Historic Preservation and enjoys the partnership support of the local historic board and National Park Service, we anticipate that it will result in a finding of no significant impact.

D. Partnership Structure and Capabilities

As described below, the City's proposed partnership base is broad to represent the diversity of Lowell's downtown historic district and the various organizations needed to realize this initiative. The following bullet points summarize the anticipated role of each of these stakeholders in the *Carbon-Neutral Lowell Park and Preservation District* initiative. Letters of support from these stakeholders is included in the Appendix to the Project Narrative.

- **National Grid** will partner with the City to conduct initial building energy audits and provide energy efficiency training to selected contractors. Financially, they will contribute retrofit rebates to property owners who choose to participate in the program.
- **University of Massachusetts Lowell's School of Engineering** will provide technical assistance to the City and private property owners as described in the Project Approach section of this application. EECBG funds will be used to support hiring several graduate research assistants whose role will be to collect and analyze the quantitative data that is required for reporting and evaluation requirements set forth through the American Recovery and Reinvestment Act.
- **Lowell Development and Financial Corporation (LDFC)** will play an integral role in this partnership by working with the City to continue funding retrofit projects upon completion of the three year grant period through the *Carbon Neutral Lowell Park and Preservation Loan Program*.
- **Enel North America** is the private operator of the hydroelectric plant located in the Boott Mill complex. The City intends to partner with Enel to bolster clean energy production in the downtown district in the pursuit of overall carbon neutrality.
- **The National Park Service and Lowell Historic Board** will provide technical assistance to private property owners in order to ensure that energy efficiency retrofits comply with historic preservation standards and requirements.
- **Local labor unions** will perform the majority of historic building retrofits. The International Brotherhood of Electrical Workers, for example, has expressed its support for the *Carbon Neutral Lowell Park and Preservation* initiative and has been in conversations with City staff regarding establishing a list of preapproved contractors to distribute to property owners.
- **Private property owners** will be invited to participate in the *Carbon Neutral Lowell Park and Preservation* initiative. The City will work with them to ensure that property retrofits have a positive impact on the City's carbon footprint while complying with the Secretary of the Interior's Standards for Historic Preservation.

As previously discussed, the City has been in contact with their potential partners and has received support for the initiative from all of them. Letters of commitment from several of these stakeholders are included in the Letters of Commitment Appendix.

Furthermore, the capability of the proposed project team is evident from the resumes that are included in the attached resume file. The breadth and depth of their respective expertise will ensure that *the Carbon Neutral Lowell Park and Preservation* initiative succeeds in its goals to reduce the downtown's carbon footprint, provide a replicable model for the retrofitting of historic downtown districts, and create and retain local jobs.

III. Project Plan and Timetable

The following project timetable outlines the major task descriptions, milestones, decision points, deliverables, and outcomes of the *Carbon Neutral Lowell Park and Preservation* initiative, pursuant to the Project Narrative guidelines described in the EECBG Funding Announcement.

Award Notice: March 15, 2010 – May 15, 2010

Program Administration

Tasks

- Prepare and submit a City Council vote to accept and expend funds awarded through the EECBG Tier 1 Grant “retrofit ramp-up”.
- Communicate directly with property owners and managers within the proposed district who have committed to participating in the program to coordinate Building Assessment, and request data needed for assessments.
- Communicate directly with other property owners to begin promoting the program
- Hold a kick-off meeting with project partners to determine next steps and clearly delineate responsibility for efficient project coordination. Partners will include at a minimum City of Lowell staff, National Grid, Lowell Development Financial Corporation, and University of Massachusetts Lowell SLICE program.
- Develop project web page for program promotion, and information dissemination.

Milestones

- Coordinate and hold press conference to announce grant award and program launch of the Carbon-Neutral Lowell Park and Preservation District.

Deliverables

- Loan process and application form created and ready for distribution

Outcomes

- Carbon Neutral Lowell Park and Preservation District Launch
- Schedule for initial Energy Audits: We expect to have 3 large projects and 1 Zero Energy Demonstration Project ready for the first quarter of Year 1.

Year 1

Program Administration

Tasks

- Hire Project Manager and transfer program oversight and coordination responsibilities
- Initiate students providing technical support to National Grid and property owners and coordinate data collection and analysis.

- Develop Marketing and Promotion outreach materials and media for distribution
- Distribute \$4.5 million of grant monies to capitalize the energy efficiency loan fund

Outcomes

- Marketing and outreach strategy and material put into operation. Initial Six months of outreach devoted to promoting incentives and program participation for building owners in the district.

Project Implementation

Tasks

- Conduct Energy Benchmarking, and Whole Building Energy Assessments for of 6 large facilities, 5 small facilities and 1 of the zero energy demonstration projects. Energy action plans and financing for project implementation is expected to be complete within first six months of award distribution.
- Conduct Energy Benchmarking, and Whole Building Energy Assessments for of 5 small facilities and 1 zero energy demonstration project. Energy action plans and financing for project implementation is expected to be complete during the second half of first year of program.
- Data collection post energy efficiency enhancements have been implemented will be compiled and analyzed for distribution.

Milestones

- 6 Large facilities, 10 small facilities, and 2 demonstration projects will have energy assessments completed and financing in place for construction by end of first program year. Project construction for all is expected to have begun if not complete by end of the first year.

Deliverables

- Project fact sheets and data made available. Interactive web tool developed and made public to highlight completed projects and identify projects under review and construction.
- Summary report will be distributed at year end detailing activities, project status, energy savings, cost savings, and Greenhouse gas reduction. Report supplement will be included for the U.S. Department of Energy according to EECGB reporting requirements.

Year 2

Program Administration

Tasks

- Restructure promotion and outreach to place a greater emphasis on project assessments and outcomes to highlight project benefits.
- Continue working with the UMass Lowell SLICE program to collect benchmarking data for whole building assessment, and post building analysis.
- Working with National Grid, UMass SLICE, and Lowell DPD staff develop case studies that projects that implement unique techniques and technologies and projects that provide transferable models for other building owners to emulate.

Project Implementation

Tasks

- Conduct Energy Benchmarking, and Whole Building Energy Assessments for of 2 large facilities, and 6 small facilities. Energy action plans and financing for project implementation is expected to be complete within first six months of the second year.
- Energy action plans and financing for project implementation is expected to be complete during the second half of first year of program with construction expected to begin by the end of year for 2 large facilities and 6 small facilities.
- Data collection post energy efficiency enhancements have been implemented will be compiled and analyzed for distribution. A cumulative review of enhancements will be provided and reported.

Milestones

- 2 Large facilities, 6 small facilities, will have energy assessments completed and financing in place for construction by end of first program year. Project construction for all is expected to have begun if not complete by end of the first year.

Deliverables

- Project fact sheets and data made available. Interactive web tool maintained to highlight completed projects and identify projects under review and construction – cumulative impact data will be provided.
- Summary report will be distributed at year end detailing activities, project status, energy savings, cost savings, and Greenhouse gas reduction. Report supplement will be included for the U.S. Department of Energy according to EECGB reporting requirements.

Year 3

Program Administration

Tasks

- Promotion and outreach strategy adapted to wind down grant period activities focusing on project assessment and promoting the ongoing loan program to extend beyond the 3-year grant period.
- Review strategy for loan program to determine the most effective way to continue energy efficiency retrofits including expanding the target area to neighborhoods surrounding the Downtown Historic district.

Project Implementation

Tasks

- Conduct Energy Benchmarking, and Whole Building Energy Assessments for remaining facilities to be complete within the first six months of year-3.
- Energy action plans and financing for project implementation is expected to be complete during the second half before the end of year with all grant funds distributed to participating property owners.
- Data collection post energy efficiency enhancements have been implemented will be compiled and analyzed for distribution. A cumulative review of enhancements will be provided and reported.

Outcomes

- Complete implementation of energy enhancements for projects participating in the program.
- Adapted strategy to continue finance energy efficiency improvements with the LDFC managed loan fund

Deliverables

- Project fact sheets and data made available. Interactive web tool maintained to highlight completed projects and identify projects under review and construction – cumulative impact data will be provided.
- Summary report will be distributed at year end detailing activities, project status, energy savings, cost savings, and Greenhouse gas reduction. Report supplement will be included for the U.S. Department of Energy according to EECGB reporting requirements.

Table 9 on the following page provides a “high level quarterly spend plan” pursuant to Project Narrative requirements described in the EECBG Funding Announcement.

Table 9: High Level Quarterly Spend Plan

Project Component	Year 1				Year 2				Year 3			
	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
EECBG Grant Funds												
Large Facilities	\$250 K	\$500K	\$ 500 K	\$ 500 K	\$ 250 K	\$ 250 K	\$ 250 K	\$ 250 K	\$ 250 K	\$ 250 K	\$ 250 K	\$ 250 K
Small Facilities	\$ 75 K	\$112.5 K	\$112.5 K	\$112.5 K	\$112.5 K	\$112.5 K	\$112.5 K	\$112.5 K	\$ 37.5 K	\$ 37.5 K	\$ 37.5 K	\$ 37.5 K
Demo Projects	\$843,750				\$ 843,750							
Total	\$ 1,168,700	\$612,500	\$612,500	\$612,500	\$956,250	\$ 112.5 K	\$325,000	\$75,000	\$287,500	\$287,500	\$37,500	\$ 37,500
EECBG Loan Dist.	\$ 4.5 M	-	-	-	-	-	-	-	-	-	-	-
EECBG Overhead												
UML Assist' ships	\$33,333				\$ 33,333				\$ 33,333			
Project Manager	\$18,750	\$ 18,750	\$ 18,750	\$ 18,750	\$18,750	\$18,750	\$ 18,750	\$ 18,750	\$ 18,750	\$ 18,750	\$18,750	\$18,750
PR & Marketing	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000				
Grant Admin.	\$ 6,250	\$ 6,250	\$ 6,250	\$ 6,250	\$6,250	\$6,250	\$6,250	\$ 6,250	\$6,250	\$ 6,250	\$ 6,250	\$ 6,250
Total	\$73,333	\$40,000	\$40,000	\$40,000	\$73,333	\$40,000	\$25,000	\$25,000	\$ 58,333	\$25,000	\$25,000	\$25,000
Loans Made - LDFC												
Large Facilities	\$250,000	\$500,000	\$500,000	\$500,000	-	-	\$ 250,000	-	\$ 250,000	\$ 250,000	-	-
Small Facilities	\$75,000	\$112,500	\$112,500	\$112,500	\$112,500	\$112,500	\$75,000	\$75,000	\$ 37,500	\$ 37,500	\$37,500	-
Demo Projects	\$843,750	-	-	-	\$843,750	-	-	-	-	-	-	-
Total	\$1,168,750 M	\$612,500	\$612,500	\$612,500	\$956,250	\$325,000	\$75,000	\$75,000	\$ 287,500	\$ 287,500	\$37,500	\$ 37,500
Nat'l Grid In-Kind												
Large Facilities	\$10,000	\$10,000	\$10,000	\$ 5,000	\$5,000	\$ 5,000	\$10,000	\$5,000	\$5,000	\$ 10,000	\$ 10,000	\$5,000
Small Facilities	\$10,000	\$15,000	\$15,000	\$15,000	\$10,000	\$10,000	\$10,000	\$5,000	\$10,000	\$10,000	\$10,000	\$ 5,000
Demo Projects	\$5,000	\$ 5,000	\$ 5,000	\$ 5,000	-	-	-	-	-	-	-	-
Total	\$20,000	\$30,000	\$30,000	\$25,000	\$15,000	\$15,000	\$20,000	\$10,000	\$15,000	\$20,000	\$20,000	\$10,000
National Grid Grant												
Large Facilities	\$1 M	\$2 M	\$2 M	\$2 M	\$1 M	\$1 M	\$1 M	-	-	-	\$1 M	-
Small Facilities	\$200,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$200,000	\$200,000	-	\$300,000	\$200,000	\$200,000
Demo Projects	\$750,000	-	-	-	\$750,000	-	-	-	-	-	-	-
Total	\$ 1.95 M	\$ 2.3 M	\$ 2.3 M	\$ 2.3 M	\$ 2.05 M	\$300,000	\$1.2 M	\$200,000	-	\$300,000	\$ 1.2 M	\$ 200,000
Owner Contribution												
Large Facilities	\$510,000	\$1,010 M	\$1,005 M	\$ 1,005 M	\$ 5,000	\$5,000	\$260,000	\$5,000	\$505,000	\$ 250,000	\$10,000	\$5,000
Small Facilities	\$60,000	\$120,000	\$120,000	\$120,000	\$ 85,000	\$ 85,000	\$60,000	\$55,000	\$85,000	\$85,000	\$ 60,000	\$55,000
Demo Projects	\$7.4 M	-	\$5,000	\$5,000	\$27.75 M	-	-	-	-	-	-	-
Total	\$20,000	\$ 7.97 M	\$ 1.13 M	\$ 1.13 M	\$ 27.84M	\$90,000	\$320,000	\$60,000	\$590,000	\$330,000	\$70,000	\$60,000
Quarterly Activity												
EECBG	\$4,5733	\$1,20875 M	\$652,500	\$652,500	\$1,279,583	\$996,250	\$350,000	\$100,000	\$345,833	\$ 62,500	\$62,500	\$25,000
LDFC EE Loan	-	\$ 1,168,750	\$612,500	\$612,500	-	\$956,250	\$325,000	\$75,000	-	\$37,500	\$ 37,500	-
National Grid	\$20,000	\$ 1,970,000	\$2,33 M	\$2,325,000	\$2,065,000	\$315,000	\$1,22 M	\$ 210,000	\$15,000	\$305,000	\$1,22 M	\$210,000
Owner Cont.	\$20,000	\$ 7,970,000	\$1,13 M	\$1,13 M	\$28.34 M	\$ 90,000	\$320,000	\$60,000	\$590,000	\$ 85,000	\$ 70,000	\$ 60,000

IV. Relevance of Outcomes and Impacts

The proposed *Carbon Neutral Lowell Park and Preservation* initiative is important for the many reasons that were discussed throughout the Project Narrative. To summarize, the initiative has the potential to significantly decrease the Downtown District's dependence on traditional fossil fuels; serve as a replicable model for energy efficient historic buildings and districts; create and maintain several hundred jobs over the initial six year period; and bolster the City's commitment to innovative public-private partnerships. The following bullet points highlight some of the most important impacts that the *Carbon Neutral Lowell Park and Preservation* initiative will achieve:

- Provide funds to retrofit as many as 47 historic buildings over the course of six years;
- Reduce total kWh usage in the Downtown Historic District by as much as 50,000,000 kWh over six years;
- Reduce CO₂ greenhouse gas (GHG) emissions by as much as 230,117 million metric tons (MMT) over six years;
- Create or maintain 325 jobs;
- Support multi-stakeholder collaboration between the City of Lowell, U-Mass Lowell faculty and graduate students, National Grid, the Lowell Finance and Development Corporation, the National Historic Park Staff, local neighborhood advisory boards, and private property owners;
- Demystify the assumption that energy efficiency and historic preservation goals are mutually exclusive, thereby serving as a model to other communities interested in pursuing both agendas.

V. Roles of Participants

The *Carbon Neutral Lowell Park and Preservation* initiative is being spearheaded by the City of Lowell in partnership with several local stakeholders. The role of each of these actors is described in *Section D. Partnership Structure and Capabilities* of the Project Narrative.

Partnering with University of Massachusetts Lowell

Graduate Students from the University of Massachusetts Lowell Engineering department will provide technical assistance to the audit team and retrofit campaign project manager. Five student assistantships will be funded through the project and coordinated through the University of Massachusetts Service Learning Integrated throughout the College of Engineering (SLICE) program. Students will provide support to the audit team by compiling existing energy use data, providing an inventory of mechanical systems (i.e. HVAC, lighting, etc.), and building data (total square feet, stories, building material, etc.). Students will also accompany auditors gaining valuable practical experience, assist in data collection, and assist in developing an energy model for specific buildings. Students may also provide an analysis of solar PV and solar thermal potential for the audited building in case the participating building owner or manager chooses to pursue renewable energy as a supplement to energy efficiency enhancements. The students will also be expected to assist in collecting and analyzing data for measurement and verification of energy efficiency improvements. Assistantships include twenty (20) hours per week of time dedicated to the project with regular interaction and oversight with U-Mass Lowell Engineering faculty, and progress reports submitted to faculty and the project manager.

VI. American Recovery and Reinvestment Act Information

As described above in *Section B: Project Impacts*, the *Carbon-Neutral Lowell Park and Preservation District* initiative has the potential to create or retain as many as 325 jobs over the course of six years. Because the majority of retrofitting will occur during the first three years, the bulk of job creation and retention will also occur during the 3-year grant period, with approximately fifteen (15) jobs created or retained annually in years four, five, and six. These estimates are provided previously in Table 8 and reiterated below in Table 10.

Resume File

Key persons involved with the Carbon-Neutral Lowell Park and Preservation District include:

- **Peter Aucella**, Assistant Superintendent for Development at the Lowell National Historical Park
- **Adam Baacke**, Assistant City Manager, City of Lowell (**Principal Investigator**)
- **Aaron Clausen**, Associate Planner, City of Lowell
- **James Cook**, Executive Director, Lowell Development and Financial Corporation
- **Greg Croteau**, Executive Director, United Teen Equality Center
- **Edward Davis**, Facility Manager, Lowell National Historic Park
- **John J. Duffy**, Professor of Mechanical Engineering, University of Massachusetts- Lowell
- **Beth Lonergan**, Lead Analyst, Energy Efficiency Department, National Grid
- **D. Ellen Pfeiffer**, Senior Analyst, Energy Efficiency Department, National Grid
- **Mark Siegel**, National Grid
- **Maura A. Smith**, Director of Development and External Relations, Lowell Community Health Center
- **Stephen R. Stowell**, Administrator, Lowell Historic Board



IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE
Lowell National Historical Park
67 Kirk Street
Lowell, Massachusetts 01852-1029

Peter J. Aucella

Peter Aucella holds a Bachelors degree in Political Science and a Masters in Public Administration, both from Northeastern University, and a Law Degree from Suffolk University School of Law. He is a member of the Massachusetts Bar.

He has held positions at the U. S. Department of Housing and Urban Development, the Massachusetts Bureau of Transportation Planning and Development and was the Community Development Coordinator for two mayors of the City of Malden, Massachusetts. He served as Director of Economic Development on the staff of former United States Senator Paul Tsongas, and later as Manager of the Senator's Massachusetts Office.

In Lowell, he has served as Director for the City's Division of Planning and Development, Executive Director of a federal agency known as the Lowell Historic Preservation Commission, and he is currently Assistant Superintendent for Development at the Lowell National Historical Park. He supervises the development of canal walkways, expansion of the Park's vintage trolley system, and works with the City and private developers on the rehabilitation and reuse of historic mill and commercial buildings. He has served on the Lowell Historic Board, the city's design review agency, and the Lowell Development and Financial Corporation, a local nonprofit economic development bank, for most of the last 25 years.

Under an Intergovernmental Cooperation Agreement between the National Park and the City of Lowell, he spent five years (1995-2000) as Executive Director of the City's Arena and Civic Stadium Commission supervising over \$75 million in construction projects, including a 6,500-seat arena, a 5,000-seat baseball stadium, a Riverwalk and Canalway, all located within the Lowell Historic District

Peter was involved with acquiring the land and supervising the construction of Boarding House Park in downtown Lowell in 1989-1990. He founded the Lowell Summer Music Series in 1990 and has supervised all aspects of the Series through its 20 seasons. In 2008, the Series featured 25 concerts by nationally known rock, folk, blues and world music artists and 10 children's shows and operated with a budget of \$800,000 primarily from private sponsors and earned income.

April 8, 2009

A D A M B A A C K E , A I C P

PROFESSIONAL EXPERIENCE

CITY OF LOWELL DIVISION OF PLANNING AND DEVELOPMENT (Lowell, MA • 1999-current)

Assistant City Manager/Director of Planning and Development (2007-current)

- Director of a 46-member municipal planning office with an annual budget of \$2.5million. Responsible for all executive, administrative, budget, political, public relations, and management functions for the department.
- Oversee staff responsible for long-range planning, development review, economic development, community development, grant management, affordable housing, property management and disposition, urban renewal, graphic design, transportation and park planning, and capital construction projects.
- Conceived, developed, and facilitating the 15-acre, 2 million square foot mixed use redevelopment of the Hamilton District through an innovative public-private partnership model (www.hamiltoncanal.com)

Deputy Director – Economic & Community Development (2004-2007)

- Establish goals, objectives, and overall direction for all economic development activities for a city of 105,167 residents, including Downtown revitalization, financing incentives, urban renewal, historic preservation, marketing, tourism and cultural development programs
- Responsible for the management, allocation, and expenditure of \$4.5 million in annual Federal funds under the CDBG, HOME, ESG, and HOPWA programs; coordinator and principal author of 2005-2010 Consolidated Plan; coordinate regulatory compliance and communication with HUD officials
- Project manager for various projects including the design and construction of a 900-space mixed-use parking structure

Chief Planner (2002-2004)

- Project manager and principal author of Lowell's Comprehensive Master Plan, adopted in 2003
- Author of comprehensive revision to the City of Lowell Zoning Ordinance and Map, adopted in 2004
- Managed seven-member professional planning staff, along with seasonal interns, and supervised all planning activities for the City, including transportation, environmental conservation, redevelopment, and neighborhood planning as well as development review and capital project implementation

Associate Planner (2000-2002)

- Administrator and principal staff advisor to the City of Lowell Planning Board; responsible for staff review of all major development proposals
- Project manager for various capital projects including the construction of the Lowell Senior Center, Branch/Middlesex Streets Intersection Improvements, and Pedestrian Signalization at the Lowell Heritage State Park

Neighborhood Planner (1999-2000)

- Primary planning liaison for residents and neighborhood groups, with City departments, regional, state, and Federal agencies
- Project manager for Lowell Senior Center Site Selection and Feasibility Study
- Managed Yard Sale program for the disposal of City-owned vacant lots
- Maintained database of troubled and abandoned buildings in the city and work with property owners, neighborhood leaders, and others to rehabilitate and/or demolish listed structures

TALKING SPACES (Rochester, NH • 1994, 1996-1999)

Designer & Project Manager

A D A M B A A C K E , A I C P

- Theaters and multi-media exhibits at Exploration Place (Wichita, KS)
- Special events projects in support of capital campaigns for Yale University (New Haven, CT), Amherst College (Amherst, MA), Cornell University (Ithaca, NY), and The Waynflete School (Portland, ME)

Architectural Consultant

- Theater for Russell Sage College and the New York State Theater Institute (Troy, NY), Theaters at Exploration Place (Wichita, KS)

Design Assistant

- Scenic Design for the National Theater of the Deaf (National Tour), Missouri Repertory Theater (Kansas City, MO), Milwaukee Repertory Theater (WI), Portland Center Stage (OR), Indiana Repertory Theater (Indianapolis), Skylight Opera Theater (Milwaukee, WI), New York State Theater Institute (Troy, NY), Mad Horse Theater (Portland, ME) and an address by His Holiness, The Dalai Lama at Brandeis University (Waltham, MA)

NATIONAL ROAD HERITAGE PARK (Farmington, PA•1995-96)

Community Development and Preservation Planner (AmeriCorps)

- Coordinated historic preservation planning and community development projects throughout a three-county region in Southwestern Pennsylvania
- Established a low-interest loan program for building rehabilitation and community revitalization in partnership with four regional financial institutions

CORNELL PRODUCTIONS (Ithaca, NY•1991-1995)

Executive Director (1992-1995); Designer & Technician (1991-1992)

- Managed full-service, student-run production company with a staff of 12-18 employees. Responsible for budget, personnel, meeting with clients, and other administration
- Provided and coordinated services, including audio, lighting, and staging equipment and labor, for more than 150 campus events. Designed lighting for over 40 concerts, shows, and special events

EDUCATION

- Cornell University – BA, with distinction in all subjects, American History, with concentrations in City & Regional Planning and Theater Design and graduate coursework in Historic Preservation, Phi Beta Kappa (1995)
- University of Massachusetts-Boston, John W. McCormack Institute of Public Affairs - MS Public Affairs (2003)
- Massachusetts Institute of Technology, Center for Real Estate – graduate professional development courses in real estate development and real estate finance (2005)

AFFILIATIONS & PERSONAL INTERESTS

- American Institute of Certified Planners, American Planning Association, Congress of the New Urbanism, National Trust for Historic Preservation, Appalachian Mountain Club, Coalition for a Better Acre (Board of Directors Clerk), Lowell Development and Financial Corporation (Board of Directors), The Lowell Plan (Executive Board Member), Lowell Historic Board (Voting Member)

ADAM BAACKE, AICP

PRESENTATIONS, LECTURES, & CONSULTING

- Congress of the New Urbanism, Massachusetts Municipal Association, National Community Development Association, Connecticut Main Street Center, Pioneer Institute, EPA Brownfields Conference, Lowell Plan, University of Massachusetts Lowell, University of Massachusetts Boston, Town of Reading (MA), Massachusetts Smart Growth Conference, Merrimack Valley Economic Development Council, Railvolution, Northern Middlesex Council of Governments

PROFESSIONAL EXPERIENCE

Division of Planning & Development ■ City of Lowell, MA

2007 - Present

Associate Planner

- Provide administrative support to the Planning Board managing development projects that require site plan review or special permit and presenting project analysis to the Board.
- Coordinate and lead the design review committee consisting of representatives from nine (9) different City departments and conveying findings to developers and Planning Board members.
- Developed procedure to streamline the permitting process and improving enforcement of conditional approvals made by the Planning Board.
- Serve as project manager to the Getting to Zero Energy Challenge; an ideas competition open to Lowell residents to achieve deep energy reductions through energy efficiency enhancements and implementation of on-site renewable energy sources.
- Serve as project manager in a planning study to develop a Green House Gas inventory for the entire city of Lowell, using baseline data to develop a Climate Action Plan. The Action Plan will provide a road map to reduce emissions as well as identify techniques to adapt to future climate change and its affects.
- Provide administrative support to the Lowell Green Building Commission, coordinating meetings, providing analysis and studies at the request of the Commission and serve as project manager on selected initiatives including:
 - Project Management of the Green Buildings / Healthy Homes initiative
 - Development and maintenance of the Commission's web page
 - Implementing the LEED green building checklist into the Planning Board process.
- Participated in a team environment to establish the first "Smart Growth" overlay zoning district in downtown Lowell, unlocking State funding for infrastructure improvements to the district.
- Serve as project manager for the MA APA award winning Lowell Gateway Plus Action Grant Planning study that seeks to better link four inner city neighborhoods to the Hamilton Canal District and Lowell's downtown. Themes include cultural, physical, and programmatic links.

Systems Planning ■ City of Ann Arbor, MI

2006 –

2007

Transportation Planning Intern

- Developed a quantitative measure for analyzing the quality of bicycle facilities.
- Provided analysis of a selected set of roadways in Ann Arbor using Level of Service measure, presenting results to the Ann Arbor Alternative Transportation Committee.
- Researched best practices for non-motorized data collection and developed a program for collection, including type of data to be collected, roadways analyzed, and process of collection.
- Collected non-motorized utilization data and reported findings.
- Worked with the transportation program manager for prioritizing improvements to the non-motorized transportation system.
- Administered monthly meetings for the Alternative Transportation Committee including, developing the agenda, providing requested research, and producing a meeting summary.
- Developed case studies on zoning premiums linked to transportation amenities.

- Researched best practices and made recommendations for improved maintenance of non-motorized facilities including; analysis of impacts to delivery cost, impact on labor needs, and available funding sources.

Modern Pest Services ■ Woburn, MA
2005

2001 -

Account Manager

- Utilized strong communication skills to develop and cultivate sales opportunities.
- Improved proposal format to highlight service benefits.
- Maintained yearly sales at 113% of goal for 2003:
 - 118% of goal for 2004.
 - 121% of goal through June 2005.
- Awarded account manager of the year for 2003 & 2004.
- Regularly created service delivery diagram for prospective clients utilizing TurboCAD.
- Developed sales activity report utilizing sales database, streamlining communication with management & improved time efficiency.

Aztec Technology Partners ■ Boston, MA
2000

1997 -

Inside Sales Representative

- Provided customer support for strategic accounts; including, State Street Bank, John Hancock Insurance, and BankBoston
- Called into existing customer base prospecting for sales opportunities
- Prospected outside of the customer base to identify new account opportunities
- Managed the acquisition, engineering, and delivery of product requiring specific programming, ensuring correct programming and on-time delivery.
- Acted as liaison between the sales representative, Engineering, Integration, Finance, and Purchasing departments

EDUCATION

Bentley College - Waltham, MA

Bachelor of Science in Business Marketing, 1993 - 1997

University of Michigan – Ann Arbor, MI

Master in Urban Planning: Physical Planning and Urban Design Concentration, 2005 - 2007

PUBLISHED WORK

“A Walk Along the Huron River”, Agora, Vol. 1, University of Michigan. Artwork showing an approach to site analysis using self defined symbols to document the physical and social context of space along the Huron River in Ann Arbor MI.

COMPUTER EXPERIENCE

Software Proficiency: ArcGIS (GIS software), Microsoft Office Suite, Adobe Creative Suite, SPSS, AutoDesk CAD and SketchUP.

**JAMES J. COOK
35 MANSION DRIVE
LOWELL, MASSACHUSETTS 01852
(978) 458-7014**

PROFESSIONAL EXPERIENCE

**2/90 – Present
Executive Director
LDFC**

Responsible for administration of multi-million dollar quasi-public lending agency providing low interest incentive financing. Solicits and interviews prospective developers for various economic development initiatives; interviews applicants for loan programs. Directs staff in coordinating applications, implementing policies, and monitoring loan portfolios of Mortgage Assistance, Industrial, Neighborhood Improvement, Renovation, and Loan Pool programs.

Initiates discussions and develops partnerships with appropriate governmental agencies such as the Small Business Administration, Mass Government Land Bank and Massachusetts Housing Finance Agency to further LDFC goals.

Serves as spokesperson for LDFC affairs with government officials and the media.

**2/90 - Present
President/Executive Director
Lowell Plan, Inc.**

Responsible for administration of private, nonprofit, economic development activities. Reports to a 30 member board made up of representatives of all major local business and banking interests. Directs staff in developing budget, fundraising activities, initiation and implementation of marketing and development projects, and support for public activities related to business development.

**1988-2/90
Assistant City Manager
City of Lowell**

Primarily responsible for the overall administration and supervision of the Division of Planning and Development, its staff, and its programs. Responsibilities included the initiation and implementation of all comprehensive planning, physical, and economic activities of the City as well as the administration of the Community Development Block Grant Program (CDBG) and other local, state, and federal grant and loan programs.

Other duties included the development and implementation of major public policies and programs relating to planning and development and the administration and management of local government activities.

**1986 - 1988
Director
Division of Planning
and Development (DPD)
City of Lowell**

Responsible for the administration and supervision of the DPD and its activities.

Duties included coordination of all municipal planning and development activities with the Office of the City Manager, as well as the implementation of the Community Development Block Grant Program (CDBG).

Other responsibilities included the coordination of major public and private economic development activities, public traffic improvements, housing rehabilitation programs, neighborhood improvements, historic preservation, human service activities, and grantsmanship.

James J. Cook

Page 2

**1983 - 1986
Assistant Director
Division of Planning**

In addition to assisting the DPD Director in the performance of his duties, responsibilities included the monitoring of all planning and development activities, the preparation of all Division of Planning and Development (DPD) reports and evaluations, the monitoring of all sources of City of Lowell planning and development funding, and the implementation of special projects assigned by the Director.

Other duties included the preparation of the DPD budget, liaison with the City Manager's Office on City Council agenda items, and other public and private agencies in Lowell.

OTHER AFFILIATIONS

**Board Member – Greater Lowell Chamber of Commerce
Board of Governors-Saints Memorial Medical Center
Board of Governors-Lowell General Hospital
Board Member- Cultural Organization of Lowell**

REFERENCES:

Furnished upon request

Brief Bio

Gregg Croteau, MSW

Executive Director

With over 15 years of youthwork experience, Gregg has worked in positions as a street outreach worker, program coordinator and director of various youth programs. Since February 2000, he has served as the first Executive Director of the United Teen Equality Center (UTEC) in Lowell, MA. He has worked with a Board of Directors and staff (with young people comprising half of both bodies) to solidify their mission that blends a youth-led and safe haven philosophy with a more structured youth development and grassroots organizing program. Their work together has resulted in national recognition, ranging from appearances on NPR to national awards for their gang peacemaking work from sources such as the Robert Wood Johnson Foundation. Gregg serves on the Board of several other community organizations in Lowell including the City Manager's Gang Advisory Task Force, and Lowell's first ever Climate Action Steering Committee.

With an interest in Southeast Asian culture stemming from his work with gang-involved Southeast Asian youth in the Boston area, he spent two years in Hanoi, Vietnam gaining fluency in Vietnamese language before beginning his work at UTEC. As a research fellow, he conducted a study on the re-development of social work in Vietnam while gaining fluency in Vietnamese language and working as the Residential Coordinator/History Lecturer for American students studying abroad at Hanoi National University. Before working in Vietnam, Gregg coordinated various youth development and organizing programs within such organizations as the Arab Community Center for Economic & Social Services in Dearborn, MI, Maverick Family Support Program in East Boston, MA, and ROCA, Inc. in both Chelsea and Revere, MA.

In 1993, Gregg received his B.A. from Wesleyan University, majoring in East Asian Studies. In 1997, he received his Masters of Social Work from the University of Michigan, focusing upon the administration of non-profit organizations. He is completing a Masters degree in Southeast Asian Studies specializing in pre-modern Vietnamese history from the University of Michigan.

Gregg has presented at various panels and conferences throughout the country with respect to a range of topics related to the field of youth development, gang peacemaking, youth organizing, and nonprofit management. He was selected as a Fellow of the National Youth Employment Coalition's New Leaders Academy in 2001 and received the Fernando Miranda Outreach Educator of the Year Award from the Community Health Education Center in 2006. In June 2006, he was selected as one of 10 national awardees (from a nomination pool of over 300 community leaders across the country) to receive the prestigious Robert Wood Johnson Community Health Leader Award for his innovative leadership and gang peacemaking work. For more details on this award, visit: http://www.communityhealthleaders.org/leaders/leader/gregg_croteau and <http://utec-lowell.org/press/pdf/062406gregg.jpg>.

On June 5, 2007, Gregg was invited to testify at the Senate Judiciary Committee's hearing on Senator Feinstein's Gang Abatement and Prevention Act of 2007. He was recently appointed to the Governor's Advisory Council for Refugees and Immigrants, and the Massachusetts Speaker of the House appointed him to a newly created Health Disparity Council. Ultimately, although the awards and recognition are much appreciated, it is the relationships that Gregg and other UTEC staff have built with all those young people who have walked through UTEC's doors that continue to be the most noteworthy source of pride.

GREGG W. CROTEAU
01854

138 Mt. Vernon Street, Lowell, MA

978.265.7173 ♦ gregg@utec-lowell.org

EDUCATION

- 9/95 - **University of Michigan**, Ann Arbor, MI.
5/98 **M.S.W., August, 1997.**
Completed masters' degree program in social work (administration focus), and currently completing master's in Southeast Asian Studies, Vietnamese history focus.
- 1/93 - **Hanoi University**, Hanoi, Vietnam.
6/93 Studied Vietnamese language and history through the Council for International Educational Exchange.
- 9/88 - **Wesleyan University**, Middletown, CT.
5/93 **B.A.** Majored in East Asian Studies. Spent a semester abroad in Tokyo, Japan studying Japanese language, history, and culture through the School for International Training.

HIGHLIGHTED WORK EXPERIENCE

- 2/00 - **The United Teen Equality Center (UTEC)**, Lowell, MA. (www.utec-lowell.org)
Present **Executive Director.** Provide overall leadership to the organization, specifically responsible for building community partnerships, leveraging resources, coordinating overall program and staff development, providing direct services such as street outreach and gang peacemaking, and facilitating a system for UTEC's youthwork model.
- 9/97 - **National Center for Social Sciences and Humanities**, Hanoi, Vietnam.
6/99 **Guest Researcher.** Responsible for the design of a research project analyzing the development of social work as a profession within youth agencies in northern Vietnam. Provided technical assistance and trainings to youth organizations on project planning and design, program evaluation, and proposal writing.
- 9/96 - **Arab American Community Center for Economic and Social Services (ACCESS)**, Dearborn, MI.
9/97 **Teen Services Coordinator.** Developed and supervised a pilot program creating a teen outreach team to establish youth development activities and mediation services within ACCESS for the ages of 14-20. Responsible for all program design and fiscal management. Created a new training course for youth leaders on budgeting, fundraising, and evaluation.
- 9/96 - **Michigan Neighborhood Partnership-Youth Development Program**, Detroit, MI.
9/97 **Consultant.** Assisted in the design and development of a Youth Development Coalition serving Detroit's largest and most comprehensive youth serving organizations. Responsibilities included program evaluation, grantwriting, and the design and facilitation of youth leadership trainings.
- 9/93 - **ROCA, Inc.**, Chelsea, MA.
2/95 **Health Promotion Coordinator.** Planned and developed a public health awareness project, led by a group of young men, focusing on the prevention of teen pregnancy and dating violence. Facilitated the creation of a training curriculum and public service announcements. Responsible for goal-setting and program evaluation.
YouthSTAR Supervisor-ROCA Revere. Planned and implemented programming for Youth STAR, (Youth Service Taking Action in Revere), a multicultural service and conservation youth corps, ages 16-23. Facilitated AIDS prevention, community gardening, intergenerational projects, and various service

learning workshops. Provided outreach, conflict resolution, and counseling to those involved in Cambodian gangs.

9/93 - **Maverick Family Support Program, North Suffolk Mental Health**

8/94 **Association**, East Boston, MA.

Youth Services Coordinator. Assisted in the development of a counseling program for youth residing in the Maverick Housing Development. As part of a clinical team, met with youth and their families to identify individual treatment plans. Implemented marketing and outreach plan for the program, including conflict resolution and mediation.

PROFESSIONAL AFFILIATIONS

- Appointments: Governor's Advisory Council on Refugees and Immigrants (Governor Patrick), Massachusetts Health Disparities Council (Speaker DiMasi), City Manager's Gang Advisory Task Force (Manager Lynch); City of Lowell Climate Action Steering Committee.
- Board commitments: Jericho Road Project-Lowell Advisory Board, Greater Lowell Workforce Investment Board Youth Council, UMASS-Lowell's Community Outreach & Partnership Center; and the Mayor's Joint Youth Commission.

AWARDS

- Robert Wood Johnson Foundation's Community Health Leaders Award, 2006 (Selected as 1 of 10 national awardees from a nomination pool of over 300; more info: <http://utec-lowell.org/press/pdf/062406gregg.jpg>)
- The Community Health Education Center's Fernando Miranda Outreach Educator of the Year Award, 2006.
- National Youth Employment Coalition's New Leaders Academy Fellow, 2001.
- National Security Education Program Fellowship, 1997 (to study Vietnamese language and conduct research on the redevelopment of social work in VietNam).
- Awarded International Institute Fellowship (for research in VietNam), 1997-1998.
- Luce Foundation Fellowship and Bowman Traveling Grant, 1993 (funds for travel expenses to study in VietNam).

SKILLS

- Specific training in staff development, gang mediation/peacemaking, and various youth development approaches.
- Experience and training in the facilitation of narrative-based therapy and strength-based counseling.
- Experience in developing and facilitating cultural diversity and grassroots youth organizing trainings.
- Advanced proficiency in Vietnamese language, written and spoken.

PRESENTATIONS

- Provided testimony at the Senate Judiciary Committee's hearing on Senator Feinstein's Gang Abatement and Prevention Act of 2007 - View testimony at <http://www.utecmedia.org/albums/54.aspx>
- Delivered numerous presentations and participated in various panels related to street outreach, narrative-based mediation, youth organizing, youth-adult partnerships, staff supervision, professional development systems, and other nonprofit management topics.
- Recent national conference and annual meeting venues include: The Robert Wood Johnson Foundation's Local Initiative Funding Partners Program Annual Meeting; National Summit on Gang Violence; Annual Conference of the New England Network for Children, Youth, and Families; UMASS-Lowell Symposium on Youth Programs; Greater Lowell Community Foundation Annual Meeting; and the MIT Sloan School Conference on Social Enterprises among many others.

Biosketch: Mr. Edward Davis

Mr. Edward Davis is facility manager at Lowell National Historical Park since 1985 and has served as a project supervisor on over sixty construction projects in the last thirty years while working with the National Park Service at Gateway National Recreation Area in New York City and at Lowell NHP. Projects ranging from solar heated hot water systems, park greenhouse construction to electrical system rehabilitations for Gateway NRA; modular boiler replacements, HVAC improvements, Boott storage cooling system and canal wall/ lock chamber rehabilitations are typical of some of the projects completed for Lowell NHP. Mr. Davis has a B.A. Degree in Economics from the University of Massachusetts and a B.S. Degree in Civil Engineering and Construction Technology from Temple University.

John J. Duffy
PROFESSIONAL VITA

Fields: Control Systems Science, Solar Engineering, Environmental Engineering, Education, Statistics, Manufacturing Systems.

EDUCATION AND ACADEMIC QUALIFICATIONS

Education

- Christian Brothers College, Memphis, TN, BS, Summa Cum Laude, 1967; majors: mechanical engineering, philosophy-theology; minor: education. Senior project: design and construction of mechanism to coat medical tissue slides with photographic emulsion, for Univ. of Tenn.
- Lewis College, Lockport, IL, Aviation Maintenance Technology Program, 1968; Fed. Aviation Agency Airframe and Powerplant Mechanics License.
- Illinois Institute of Technology, MS, 1971; mechanical and aerospace engineering. Thesis involved experimentation with, and simulation of, rockets.
- Washington University, St. Louis, DSc, 1974; control systems science and engineering. Thesis: Identification of a nitrogen ecosystem.

Experience

- 1998- University of Massachusetts Lowell, Professor, Mechanical Engineering Department. Graduate Coordinator, Energy Engineering Program (Solar Option) (1996 - present). Director, Center for Sustainable Energy (1996 - present)
- 1986-1998 University of Massachusetts Lowell, Associate Professor, Mechanical Engineering Dept. Courses: solar engineering, capstone design, control systems, dynamic systems, statistics, ME Lab, manufacturing systems, and stochastic processes.
- 1983-86 University of Lowell, MA, Assistant Professor, Mechanical and Energy Engineering Department. Courses: solar engineering, design, and automatic control.
- 1982- J.J. Duffy Associates, Winchester, MA, Principal. Formed a small company to engage in contract research in energy and environmental systems analysis. Past work: monitoring and analysis of passive solar buildings and ground-source heat pumps; short-term thermal testing of buildings; for government, industry, and utilities.
- 1980-82 Northeast Solar Energy Center, Boston, MA, Senior Technical Staff. Responsible for design tool development, monitoring and data analysis of passive solar systems; managed small group.
- 1977-80 The Analytic Sciences Corp., Reading, MA, Technical Staff, Energy and Environment Dept. Contract research in cost-benefit optimization of environmental monitoring systems, site suitability analysis of nuclear waste disposal, electrical load research analysis, environmental impact assessment of power plant thermal discharges, and power system stability analysis.
- 1976-77 Hudson's Bay Oil and Gas Co., Calgary, Alberta, Canada, Environmental Engineer. Performed research on effects of sulfur gas production on the environment. Helped company ensure compliance with environmental regulations.
- 1975-76 University of Calgary, Assistant Professor, Mechanical and Chemical Engineering Depts. Courses: control systems, calculus, dynamics, water and soil pollution. Organized international conference on oil spill effects, having ninety attendees.
- 1974-75 University of Calgary, Research Associate, Chemical Engineering Department. Investigated environmental effects of oil spills involving experimental design, field sampling, data analysis, modeling, and cooperation with industry and government.
- 1970-74 Washington University, St. Louis, Graduate Research Assistant, Control Systems Science and Engineering Department and Center for the Biology of Natural Systems. Worked with large interdisciplinary group under Barry Commoner on effects of inorganic nitrogen

- fertilizer, involving modeling, simulation, statistical analysis (supported with NSF grant).
- 1970, Summer Wolf Management Services, Chicago, Systems Analyst and Programmer. Developed cash flow forecasting and accounting programs.
- 1968-70 Lewis University, Lockport, IL, Instructor, Aviation Department; Computer Systems Development Coordinator. Member, Board of Higher Education Data Systems Task Force for Illinois, 1970; Member, Board of Directors of Christian Brothers Educational Data Center, Lockport, 1969-70. Developed innovative courses in aircraft pneumatic and hydraulic systems, math, physics, and other areas of aircraft maintenance. Developed institutional research systems on space and instructor utilization.
- 1965-66 St. Mel and St. Joseph High Schools, Chicago, Teacher, Summer Sessions.

PROFESSIONAL ACTIVITIES

- American Solar Energy Society (ASES): Member since 1981; elected member of national Board of Directors of ASES, served from 1988 through 1990, reelected to serve from 1992 through 1994; elected member of national board of directors of the Passive Architecture and Construction Division (largest division in ASES) and served from 1986 until 1989; elected Technical Program Chairperson for the 1988 Passive Solar Conference (with an attendance of 500); invited panel speaker at plenary session of the National Passive Solar Conference in Knoxville, TN, 1982; elected in 1990 chairperson of the newly created Ethics and Member Concern Committee for three years; member of the Meetings and Conference Committee since 1987, cochairperson 1990-96, 2000.
- Northeast Sustainable Energy Association (a chapter of ASES): Member since 1981; invited speaker at the closing plenary session of a conference on energy efficient construction practices at Mt. Snow, VT, October, 1983 (over 600 attendees); invited workshop speaker on passive solar design calculations in Columbus, OH; Boston Architectural Center; Sturbridge, MA; invited speaker at a Western Mass. Solar Energy Society meeting in September, 1983; invited speaker at a conference on heating today's buildings, Hyannis, MA, Nov., 1985; member of organizing committee of the American Tour de Sol (solar car race) 1988-1991.
- University of Massachusetts Lowell Solar Energy Association: Faculty adviser and co-founder; student chapter of NESEA at UML; coordinator of the design and construction of the UML solar race car for the American Tour de Sol in 1990 and 1992 and of a completely different solar car for Sunrayce 93 from Dallas to Minneapolis sponsored by DOE and EPA.
- International Solar Energy Society: Member since 1981; attended biennial conferences in Montreal, 1985 and in Denver, 1991; invited to present a paper at the conference Evolution of External Perimetral Components in Bioclimatic Architecture in Milan, Italy.
- American Association of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE): Member 1986-1994.
- Institute of Electrical and Electronic Engineers (IEEE): Control Systems Society: member since 1971; Systems, Man, and Cybernetics Society: member since 1971.
- Association of Professional Engineers, Geologists, and Geophysicists of Alberta: Member from 1975 to 1991; registered professional engineer in Alberta.
- American Society of Engineering Education; member 1968-74, 1988-present.

Beth G. Lonergan
44 Asylum Street
Milford, Massachusetts 01757
Mobile (339) 222-6858

PROFESSIONAL EXPERIENCE

National Grid
Waltham, MA

April 2009- Present

Lead Analyst

Energy Efficiency Department

Responsible for managing the following residential energy efficiency programs:

MA EnergyWise, RI EnergyWise, NH Home Performance with Energy Star.

- Develop residential energy efficiency program designs and processes
- Create budgets and cost effective implementation plans under which to operate programs
- Develop Request for Proposals and selection of vendors to deliver and administer programs
- Manage program delivery in a cost effective manner
- Primary customer contact for specific energy efficiency programs and complaint resolution
- Hire and manage outside subcontractors to implement energy efficiency programs for the company
- Track financial program and operational performance for budgets over \$8,000,000
- Approve financial invoices using company accounting system

NSTAR ELECTRIC AND GAS CORPORATION
Westwood, MA

1990-2009

Program Manager

11/2000-present

ENERGY EFFICIENCY DEPARTMENT

- Develop residential energy efficiency program designs and processes
- Create budgets and cost effective implementation plans under which to operate programs
- Develop Request for Proposals and selection of vendors to deliver and administer programs
- Manage program delivery in a cost effective manner
- Primary customer contact for specific energy efficiency programs and complaint resolution
- Develop and implement marketing programs, surveys, focus groups, direct mail, newspaper ads, internet websites
- Hire and manage outside subcontractors to implement energy efficiency programs for the company
- Track financial program and operational performance for budgets over \$3,000,000
- Approve financial invoices using company accounting system

Senior Research Analyst

1998-2000

ENERGY EFFICIENCY DEPARTMENT

- Managed and conducted process and impact evaluations, including vendor management, RFP's and development of analyses of net savings.
- Designed, developed, and maintained Access database applications for use in tracking and analyzing survey data.
- Analyzed survey data for both internal and external departments by extracting data from an Access database and importing to SPSS and compiling into reports.
- Programmed SQL queries and extract data from the Oracle based Marketing Data Warehouse for use in analysis and various other data request initiatives.

Customer Service Supervisor
SERVICE DISPATCH

1997-1998

- Managed a 24 hour Customer Service Dispatch operation, including supervision of 13 employees.
- Maintained a \$1,000,000 annual budget.
- Coordinated weekly scheduling, overtime scheduling, vacation calendars, and holiday scheduling for bargaining unit Dispatch employees.
- Provided support to staff with customer complaints.
- Prepared weekly and monthly payroll.
- Conducted training for Customer Service employees regarding new or modified policies and procedures for Department and Company.
- Maintained 24-hour on-call availability to the department.

Department Supervisor

1996-1997

SAFETY AND TRAINING

- Managed all aspects of the workers' compensation program for over 300 employees, prepared cases for litigation, and interacted with the medical, legal, and business community.
- Insured compliance with state, local and federal regulations regarding workplace injuries and reporting requirements.
- Coordinated required audiometric testing and conducted company wide training for 55 employees to comply with OSHA regulations.
- Conducted and administered company ergonomic workstation and site evaluations.
- Notified and advised the Department of Public Utilities and the Department of Transportation of gas-related incidents requiring 24-hour on-call availability.

Administrative Support Specialist

1990-1996

MARKETING/FINANCIAL ANALYSIS

- Developed and implemented a pilot program introducing handheld computers to the company, including setting up the hardware and installing the software, writing documentation and user manuals.
- Researched the Company's maintenance contracts and implemented a new price structure, increasing revenue by more than \$200,000.
- Performed activity based cost studies from various company process flows.
- Provided record keeping support for departmental personnel, performed mathematical computations, and checked completeness, accuracy, and consistency of records and documents

EDUCATION

UNIVERSITY OF MASSACHUSETTS, AMHERST, MA
BACHELOR OF ARTS DEGREE IN ENGLISH

1990

COMPUTER SKILLS

Microsoft Excel
 Microsoft Access
 Microsoft Outlook
 SPSS

Microsoft Word
 Microsoft Power Point
 Visio Flowcharting
 SQL

COMMUNITY VOLUNTEERISM

Brookside Elementary School, PTO Board Secretary
 Brookside Elementary School, PTO Board Vice President
 Woodland Elementary School, Volunteer and PTO member

2006-2007
 2008
 2008

D. ELLEN PFEIFFER

24 Concord Ave, Apt 109 • Cambridge, MA 02138 • (202)641-8573 • ellen.pfeiffer@us.ngrid.com

PROFESSIONAL EXPERIENCE

NATIONAL GRID

Waltham, MA

Senior Analyst, Energy Efficiency

2009

- Direct company's inaugural community campaign for energy efficiency, Energy Action: Aquidneck and Jamestown.
- Lead business portion of new community campaigns with Green Justice Coalition.
- Represent National Grid in development of Massachusetts' state-wide energy efficiency marketing campaign.

GRASSROOTS CAMPAIGNS, INC

Boston, MA

Field Manager, National Democratic Committee

2008

- Raised thousands of dollars on a grassroots level and became Top National Fundraiser for DNC in July 2008.
- Activated communities by training, managing, and leading teams of activists to target specific neighborhoods.
- Evaluated and reported on fundraising success through statistical analyses.

U.S. DEPARTMENT OF ENERGY, NATIONAL NUCLEAR SECURITY AGENCY

Washington, D.C.

Program Officer, Global Initiatives for Proliferation Prevention

2005-2007

- Managed 96 projects pairing US businesses with premier former Soviet scientists to create high tech ventures.
- Created new assessment tool using statistical and scientific analyses to determine future funding priorities.
- Completed comprehensive internal business process review and reform to save taxpayers \$15 million.
- Evaluated success of ongoing projects through statistical analysis of determined metrics.
- Drafted and executed \$28M program budget for FY07-FY09.
- Represented Department of Energy at President's US-Russia Innovation Council on High Technology.
- Spearheaded outreach communications and represented program in interagency meetings and other public forums.

EDUCATION

HARVARD UNIVERSITY

Cambridge, MA.

M.A., Russian, East European, and Central Asian Studies

2003-2005

- Coursework in foreign policy, comparative politics, and civic and educational reform. Fieldwork in Ukraine.
- Foreign Language and Area Studies Fellowship. Harvard Ukrainian Research Institute Summer Grant. GPA 3.6.

MOSCOW STATE UNIVERSITY

Moscow, Russia

Fulbright Scholar

2002-2003

- Assessed mission and performance of five faith-based social service organizations in Russia.

DARTMOUTH COLLEGE

Hanover, N.H.

B.A., World History, *Cum Laude*

1997-2001

- Dartmouth College Scholarship, \$5000; Golden Key Honors Society; War and Peace Fellow, GPA 3.7.
- Foreign Study in St. Petersburg, Russia and Buenos Aires, Argentina.
- Forestry Team, Dartmouth Outing Club, Glee Club, metallurgy teacher.

OTHER EXPERIENCE

AMNESTY INTERNATIONAL, USA

Washington, D.C.

Russia Country Specialist

2005-Present

- Co-led U.S. Strategy on Human Rights in Russia. Represented the U.S. at Amnesty 2006 Russia Strategy Conference in Oslo, Norway. Won Congressional aid for women's rights and fair trial monitoring in Russia.

ALLEN AND OVERY, L.L.P.

New York, N.Y.

Eurasian Legal Research Assistant

Summer 2000

- Supported senior partners on mergers and acquisitions and global loans in Eurasian oil and gas industry.

U.S. CHAMBER OF COMMERCE

Washington D.C.

Intern, International Division

Winter 2000

- Evaluated international trade policy issues and prepared briefings for Chamber President.

MARK SIEGAL

16 Westminster Way
Westborough, MA 01581

Office: (781) 907-1622
Home: (508) 836-3129

CAREER MILESTONES

Energy Efficiency

Responsible for managing the Large Business and Small/Mid-Sized Business Energy Efficiency Programs in Massachusetts and New Hampshire including establishing program budgets, managing delivery vendors, resolving customer issues, and regulatory reporting. Implemented quality control standards relating to customer satisfaction with installations and post inspections. Participated with MA and NH utilities on delivering consistent programs.

Supported development of energy efficiency programs in Niagara Mohawk's service territory.

Lead in licensing our energy efficiency programs to other Massachusetts utilities. These multi-year contracts also provided for ongoing consulting services.

Program Manager for a high efficiency commercial/industrial air conditioning program. Subsequently, collaborated with Northeast Energy Efficiency Partnership (NEEP), non-utility parties, and others in developing and implementing a regional HVAC program (CoolChoice).

Manager of a turnkey installation service for commercial and industrial customers. This included responsibility for developing and implementing the product as well as managing the development team.

Project Manager for utility clients (Synergic Resources Corporation). Responsible for the overall success of projects including managing internal resources, budgets, and presentations to clients.

National Account Customers

Developed and sustained relationships with our National Account customers.

Promoted our products and services to National Account customers including responsibility for achieving annual goals.

Advocated on the behalf of national account customers within our company.

E-Business

Responsible for identifying and implementing e-business solutions throughout the company with the primary goals of reducing operating costs, improving productivity and enhancing customer service.

Day-to-day responsibility for developing and implementing web functionality supporting key business goals. Major initiatives include:

- Developing an overall e-business strategy for migrating the web site from a static site to a transaction-based site
- Implementing an online customer service center
- Managing the web site redesign.

System Development

Developed a computer software system at the Federal Reserve Bank. This multi-year, project involved developing user specifications, liaison between system users and computer programmers, system acceptance testing, training, system implementation, enhancements and internal customer service support.

Training

Develop and conduct annual presentations to 300+ external contractors and vendors associated with our energy efficiency programs. Developed and conducted training sessions to 200+ Federal Reserve Bank employees.

EMPLOYERS

National Grid (formerly NEES)	1994-Present
Synergic Resources Corporation	1992-1994
Federal Reserve Bank of Philadelphia	1984-1989

PAPERS AND PRESENTATIONS

"on bill financing – one utility's experience", Siegal, Mark, Third Annual Energy Efficiency Financing Forum, April 2009.

State of New York Public Service Commission Case 07-M-0548 – Proceeding on Motion of the Commission Regarding an Energy Efficiency Portfolio Standard (EEPS), Working Group Member of Working Group VI – On-Bill Financing, December 2008

"Peeling Back the Onion of National Grid's Small Business Energy Efficiency Program", Siegal, Mark, AESP 18th National Energy Services Conference, January 2008.

"E-Business Evolution", Panelist at Public Relations Society of America conference, May 2000

"A Discussion and Critique of Market Transformation, Challenges and Perspectives", Baston, Douglas, C. and Siegal, Mark, Energy Center of Wisconsin, June 1999

"Back to the Future: The Past, Present and Future of Energy Efficiency Programs", Presentation to the Edison Electric Institute's Spring National Accounts Workshop, March, 1999

"Tales from the Trenches: Early Experiences in Market Transformation in the Northeast", Baston, Douglas, C. and Siegal, Mark, 9th National Energy Services Conference, December, 1998.

"The Application of Survival Analysis to Demand Side Management Evaluation" Bordner, Robert and Siegal, Mark, ACEEE 1994 Summer Study on Energy Efficiency in Buildings, August, 1994.

"Persistence of Energy and Demand Savings on the Farm" Siegal, Mark and Stewart, Robert, Fifth Annual Cornell Agricultural Energy Program, May, 1994.

"Tracking Energy Survey Results" Published in Accent on Energy, Newsletter of the Southeastern Pennsylvania Energy Center, Vol. 3, No. 12, December 1991.

EDUCATION

Strategic Internet Management, Northeastern University	2000
Certified Energy Manager (CEM), Association of Energy Engineers	1998
M.S., Energy Management and Policy, University of Pennsylvania	1991
B.B.A., Economics, Temple University	1983

MAURA A. SMITH
40 Commonwealth Road
Watertown, MA 02472
(617) 926-1078
maurasmith@rcn.com

DEMONSTRATED SKILLS: Fundraising; Grantwriter; Special Events; Marketing and Communications; Government and Community Affairs; Strategic Planning; Project Management; Public Speaking.

EDUCATION:

UNIVERSITY OF CALIFORNIA-BERKELEY, Masters in City and Regional Planning, 1985. Selected for a post-graduate fellowship from the International Council on Monuments and Sites (ICOMOS); served as Research Associate for the National Heritage Memorial Fund, London.

WELLESLEY COLLEGE, B.A. in Political Science, 1980. Participated in the Wellesley Washington Internship Program, Summer 1979.

PROFESSIONAL EXPERIENCE:

DIRECTOR OF DEVELOPMENT & EXTERNAL RELATIONS **2007-**
Managing a \$32 million capital campaign to construct a 100,000 s.f. state-of-the-art community health care facility. Have completed over 60 state and federal grant proposals that have resulted in over \$20 million to support basic operations, facility renovations and expansion, and special health initiatives. Wrote proposal that garnered a \$9.35 million Stimulus grant to construct new facility. Responsible for all marketing, press relations, and government affairs.

FUNDRAISING CONSULTANT **2001-**
Independent consultant for a variety of non-profit clients including:
Lovelane Special Needs Horseback Riding Program: Serve as grantwriter for therapeutic horseback riding program in Lincoln, MA that serves over 100 special needs children. From 2008-2009, increased grant revenue from \$3,000 per year to annual proceeds of \$75,000.

Rodman Ride for Kids: Served as Executive Director of 2001 cycling event that raised \$2M for a variety of children's charities throughout Massachusetts. Responsible for solicitation of all donations and coordination of all event logistics including public relations and marketing.

DIRECTOR OF DEVELOPMENT, Tenacity, Boston, MA **2006-2007**
Managed fundraising, donor cultivation, and special event activities for a youth development organization that provides academic support and tennis instruction for at-risk youth in Boston (exceeded \$2.4 million annual budget) by 33% in first year). Coordinated all aspects of Tenacity's annual Gala, which was attended by 1,000 guests and raised over \$1 million in May 2007.

DIRECTOR OF ANNUAL GIVING & LEADERSHIP SUPPORT **2004 -2006**
Buckingham Browne & Nichols School, Cambridge, MA
Solicited Annual Fund gifts totaling over \$2 million and cultivated a portfolio of Lead Donors for \$62 million Capital Campaign. Redesigned all fundraising communications materials including direct mail solicitations and BB&N's Annual Report.

VICE PRESIDENT OF DEVELOPMENT AND EXTERNAL AFFAIRS 2002-2004

Women's Educational and Industrial Union, Boston, MA

Managed all aspects of fundraising including annual fund, corporate and foundation relations, special events, communications, marketing, and external affairs. Directed a staff of six staff to raise over \$2M annually and coordinated the Union's first capital campaign that raised \$3.5 million. Coordinated all donor cultivation events including Major Donor events and the annual Amelia Earhart Award Luncheon, which attracted 1,500 attendees and raised over \$360,000 in 2003. Implemented a major re-branding effort including design of a new website.

DIRECTOR OF DEVELOPMENT, Epiphany School, Dorchester, MA 1999 – 2000

Created the Development Office for a new tuition-free school for inner-city youth. Duties included planning and coordination of special events, development of all communication materials, management of all grant-writing activities, and all donor stewardship activities. Secured \$2.8 million in new gifts and pledges in 2000, the first full year of fundraising.

EXECUTIVE DIRECTOR, Cambridge Office for Tourism, Cambridge, MA 1994 – 1999

Created the City's first tourism marketing agency including the development of a strategic plan and the creation of a new corporate identity, advertising and public relations strategies, marketing collateral, and the City's first tourism web site. Recipient of the 1998 "Spirit of Marketing" Award presented by the Greater Boston Convention and Visitors Bureau (GBCVB) for creating a successful new marketing campaign to promote Cambridge.

PROJECT MANAGER, City Manager's Office, Oakland, CA 1991-1994

Directed all disaster recovery and neighborhood rebuilding activities following 1991 urban wildfire that destroyed 3,000 homes. Organized a citywide referendum campaign that resulted in a \$50 million municipal bond to improve emergency preparedness. Organized the public approval process for a Special Assessment District, which generates \$2 million annually for new fire mitigation programs. Developed all public information materials, staffed a Citizens Commission, and wrote weekly updates for City Council review.

EXECUTIVE DIRECTOR, The Salem Partnership, Salem, MA 1989-1991

Served as first full-time Director for a public-private partnership of 40 local leaders from business, government, and non-profit organizations dedicated to the economic and cultural revitalization of historic Salem. Directed a Congressional lobbying campaign that resulted in \$13 million in federal funds to renovate Salem's National Park Site and construct a downtown Visitors Center

SPECIAL ASSISTANT TO THE CITY MANAGER, City of Cambridge, MA 1985-1989

Chief aide to City Manager with responsibilities in project planning, grants management, community relations, and fiscal management. Wrote successful grant proposal for State funding to construct a \$12 million recreation area on a former landfill site and served as Project Manager during planning and construction of Danahy Park. Managed special initiatives including the creation of the city's first community-based recycling program.

SENATE AIDE, Office of United States Senator Paul Tsongas, Boston, MA 1981-1983

Conducted legislative research, prepared memos and reports for the Senator, and responded to constituent inquiries. Coordinated fundraising events and conducted advance activities during 1978 Senate campaign.

COMMUNITY SERVICE:

Community Servings: Fundraising Volunteer for annual "Pie in the Sky" event (Event Chair in 1997; 1998; 2000) that raises over \$350,000 annually to feed individuals living with AIDS. Volunteer, LifeSavor Event Planning Committee (1996-2007), which raises over \$500,000 annually. Deliver meals to clients once a month.

Wellesley College Alumnae Association: Co-Chair, 25th College Reunion in 2005. Class President, 2005-2010.

Stephen R. Stowell

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Chelmsford, MA 01824
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Professional Experience

9/1994 - present

Lowell Historic Board

Lowell, MA
Administrator

City of Lowell's historic preservation agency. Responsible for directing all historic preservation programs for the City of Lowell. Responsibilities include: design review, permitting, and enforcement within ten historic/architectural review districts containing approximately 2,200 properties; advisor to City administration and City Council regarding historic, architectural, design, and preservation issues; liaison between Historic Board and local, state, and federal agencies, other city agencies, businesses, neighborhood and advocacy groups, media, and the general public; development and supervision of National Register and survey programs; fundraising and grant writing/administration; Certified Local Government coordinator; state and federal environmental reviews; staff oversight and budget administration; technical assistance; development and implementation of education, publication, and volunteer programs. **Selected achievements:**

- Design review and approval of over 1,000 projects ranging from business signage to commercial building rehabilitation to construction of a 7,000 seat multi-purpose civic arena since 1994. Since March of 2003, actively involved in the planning and review of over \$250 million in preservation-based economic development activity including four major millyard developments, commercial building loft conversion projects, and new residential construction.
- Acted as the developer of last resort through the acquisition and stabilization of an endangered 1830s Greek Revival residence including grant writing, securing project partners, and design review and approval of design plans.
- Provided technical assistance and guidance for a wide range of community members. Activities have included routine referrals and technical guidance on preservation practices as well as research on funding sources, direct grant writing, and providing feasibility study assistance. Since 1994, have written grants and secured funding for direct Board projects or other non-profit partners totaling over \$722,000 from a variety of public and private sources.
- Developed new public education and outreach programs including publications, website, house markers, and other public programming including Doors Open Lowell, an international event dedicated to creating awareness of preservation, architecture, and design, which was the first of its kind in the United States when first presented in 2002. Recognized as an "innovative program" by the White House and the Advisory Council on Historic Preservation when Lowell was designated a Preserve America Community in 2004.
- Further expanded partnerships within the community through establishment of the Lowell Heritage Partnership, a multi-organizational community preservation, cultural, and environmental coalition including the University of Massachusetts Lowell, Lowell National Historical Park, Middlesex Community College, Greater Lowell Chamber of Commerce, and the Lowell Parks and Conservation Trust among others.

2/1994 – 9/1994

Historic Massachusetts, Inc.

Boston, MA
Program Manager

Statewide non-profit historic preservation organization. Responsibilities included: administration of statewide endangered historic resources program including easement monitoring, feasibility studies, and endangered historic resources list; liaison to Historic District/Historical Commission and Heritage Education Committees overseeing program/event development and coordination; coordination of outreach and preservation technical assistance; grant writing and administration.

1985 – 1/1994

Lowell National Historical Park

*Lowell, MA
Park Ranger*

Lowell National Historical Park is a unit of the National Park Service, U.S. Department of the Interior. Responsibilities included: development and presentation of a variety of public programming related to Lowell's historic and architectural development; hiring and supervision of workshop leaders and program logistics at the Tsongas Industrial History Center, a partnership between the National Park and the University of Massachusetts Lowell; administered special interest tour programming; regularly developed and presented training sessions on the built environment and historic architecture.

1991 – 2001

Chelmsford Historic District Commission

*Chelmsford, MA
Member*

Responsible for design review and approval within local historic district; developed commission newsletter; vice chairman from 1995 to 2001.

1989 – 1994

University of Massachusetts Lowell

*Lowell, MA
Continuing Education Faculty*

Developed and taught two architecture and historic preservation classes, *The Architecture of Lowell* and *House Histories*; also taught similar courses at Northern Essex Community College.

1983 – 1986

Chelmsford Historical Commission

*Chelmsford, MA
Member*

Responsible for survey and documentation of community historic resources; advisory review of historic rehabilitation and demolition projects.

Education

1986 – 1988

**Columbia University
Graduate School of Architecture, Planning, and Preservation**

*New York, NY
Master of Science, Historic Preservation*

1982 – 1986

University of Lowell

*Lowell, MA
Bachelor of Arts, History*

Publications

Put Your Best Sign Forward (The Alliance Review, National Alliance of Preservation Commissions, March, 2005)

Lowell's Look on Things (The Alliance Review, National Alliance of Preservation Commissions, January, 2000)

Building America's Industrial Revolution: The Boott Cotton Mills of Lowell Massachusetts (Teaching With Historic Places Lesson Plan, Preservation Press with the National Park Service, 1994).

Professional Affiliations

2004 - present

Board of Directors, National Alliance of Preservation Commissions