

City of Springfield, Massachusetts Application for Green Communities Designation



Mayor Domenic J. Sarno



Green Communities Designation Criteria



GREEN COMMUNITIES GRANT PROGRAM FY 10 APPLICATION



DESIGNATION FORM

INSTRUCTIONS

In order to be designated as a Green Community pursuant to MGL c 25A §10, the applicant must meet five criteria. The Green Communities Division is required to verify that the applicant has met the criteria through an application process.

This designation form is the first step in a municipality becoming a Green Community. Please fill out this designation form completely including providing the required information outlined in this form. The designation phase is a rolling process. However, to be considered for grants in FY 2010, designation forms are due on **Friday, May 14, 2010 by 5pm**. One electronic copy must be submitted to Cliff Sullivan at cliff.sullivan@state.ma.us and one unbound hard copy must be submitted to the following address:

Department of Energy Resources
Green Communities Division
100 Cambridge Street, 10th Floor
Boston, MA 02114
ATTN: Cliff Sullivan

Once an applicant has completed this designation form, it will be reviewed by the Green Communities Division and a determination will be made as to designation. When an applicant is designated as a Green Community, it is eligible to apply for grant funds to support energy efficiency and renewable energy projects.

APPLICANT INFORMATION

Municipality / Local Government			Contact (print)	
City of Springfield			Cheryn Wojcik	
Street Address			Title	
36 Court Street			Grants Director	
City/Town	State	Zip Code	Telephone	Email
Springfield	MA	01103	(413) 787-6134	cwojcik@springfieldcityhall.com

FOR APPLICANTS SERVED BY MUNICIPAL LIGHT PLANTS - pursuant to MGL c 25A, §10(e)

Please indicate the date the Municipal Light Plant adopted the Renewable Energy

Charge and attach a copy of the minutes reflecting the vote taken:

X CRITERIA 1: AS OF RIGHT SITING

Description of Criteria

Provide for the as-of-right siting of renewable or alternative energy generating facilities, renewable or alternative energy research and development (R&D) facilities, or renewable or alternative energy manufacturing facilities in designated locations.

Type of As-of-Right Zoning

Please indicate which type of as-of-right zoning the municipality is providing (**check all applicable boxes**).

- RE/AE Generation
 - On-shore Wind – a turbine of a minimum 600kW in size or above
 - Off-shore Wind – a turbine of a minimum 2.5MW or above
 - Solar Photovoltaic – a single ground-mounted system of a minimum of 250 kW or above
 - Biomass CHP - a minimum of 5MW in a stand-alone building
 - Ocean, wave or tidal – no minimum threshold

- X** RE/AE Facilities
 - X** Research and Development
 - X** Manufacturing

Documentation

RE/AE Generation and Facilities

Please provide the following documentation as evidence that the municipality has met this criterion (include documents with this form).

- * Brief description of by-law
- * Identification of designated locations
- * Explanation of how measures meet criteria
- * Attach copy of bylaw or ordinance

- * Copy of zoning map that shows area zoned

RE/AE Facilities – Where Applicant is submitting an existing bylaw not adopted specifically for this Program

For those applicants that meet the criterion for R&D and or Manufacturing through existing bylaws or ordinances please include the following:

Applicants must provide a letter from municipal counsel certifying that the existing zoning complies with the RE/AE Facilities criteria. In terms of specific contents:

The letter must cite and summarize the pertinent section of the zoning ordinance/bylaw;

Applicants must include copies of:

- The applicable section of their zoning bylaw/ordinance
- Copy of zoning map that shows area zoned
- Important zoning definitions
- The relevant section of the use table and any key that will help DOER interpret the use table
- Any related local regulations applicable to facilities sited under the bylaw/ordinance—such as site plan review regulations—so that DOER can confirm that the related local regulations are non-discretionary; AND
- Yield calculations must be either included in the text of the letter or attached.

X CRITERIA 2: EXPEDITED PERMITTING

Description of Criteria

Adopt an expedited application and permitting process under which these energy facilities may be sited within the municipality and which shall not exceed 1 year from the date of initial application to the date of final approval.

The expedited application and permitting process applies to the proposed facilities which are subject to the as-of-right siting provision.

An applicant can meet this requirement by applying the expedited permitting process of MGL c 43D to these zoning districts.

Type of Expedited Permitting

Please indicate which type of as-of-right zoning the municipality is providing (**check the applicable box**).

- Local Expedited Permitting Process
- M.G.L. c43D – Expedited Permitting

Documentation

Please provide documentation that an expedited application and permitting process has been fully adopted for the as-of-right zoned parcels.

Local Expedited Permitting Process

1. Municipalities must provide DOER a letter from legal counsel affirming that nothing within the municipality's rules and regulations precludes issuance of a permitting decision within one year along with the language addressing approval procedures and associated timing from any applicable bylaws/ordinances or regulations.
2. The applicant should also include a copy of the applicable map(s) showing that the areas where the expedited permitting applies coincides with the as-of-right zoned areas for Criteria 1.

MGL c43D

1. Municipalities must provide DOER with a certified copy of their City Council or Town Meeting vote designating the as-of-right zoned parcel(s) as a Priority Development Site ("PDS")
2. The applicant should also include a copy of the applicable map(s) showing the areas where the expedited permitting applies.

X CRITERIA 3: ENERGY USE BASELINE / REDUCTION PLAN

Description of Criteria

Establish an energy use baseline inventory for municipal buildings, vehicles, street and traffic lighting, and put in place a comprehensive program designed to reduce this baseline by 20 percent within 5 years of initial participation in the program.

Documentation

Please provide a copy of the energy use baseline inventory completed for all municipally owned and operated buildings, vehicles, street lights and traffic lights and a detailed plan for reducing fossil fuel consumption by 20% in 5 years (**all required**).

- Identify inventory tool used: Portfolio Manager, MassEnergyInsight, and internal

- X Provide the baseline year used: 2007
 - X Provide documentation of results of inventory
 - X Copy of plan/specific Actions to be implemented and timeline with milestones to achieve required energy reductions
 - X Documentation that both the general government and school district have adopted the energy reduction plan
-

X CRITERIA 4: FUEL EFFICIENT VEHICLES

Description of Criteria

Purchase only fuel-efficient vehicles for municipal use whenever such vehicles are commercially available and practicable.

Documentation

Please provide the following documentation to verify that the municipality has met this criterion **(both required)**:

- X A copy of the policy or other mechanism adopted for purchasing only fuel efficient vehicles
 - X Inventory of existing fleet (model, year, estimated mpg) with plans for replacements with fuel efficient vehicles
 - X Documentation that both the general government and school district have adopted the fuel efficient vehicle policy
-

X CRITERIA 5: MINIMIZE LIFE CYCLE COSTS

Description of Criteria

Require all new residential construction over 3,000 square feet and all new commercial and industrial real estate construction to minimize, to the extent feasible, the life-cycle cost of the facility by utilizing energy efficiency, water conservation and other renewable or alternative energy technologies.

Cities and towns can meet this requirement by adopting the new BBRs Stretch Code, the new appendix to the MA State Building Code.

Type of Method

Please indicate which type of life cycle cost reduction the municipality is providing (**check applicable box**).

Local Process

Adopted Stretch Energy Code (780 CMR 120.AA, the MA Board of Building Regulations and Standards (BBRS) Stretch Energy Code)

Documentation

Please provide the following documentation to verify that the municipality has met this criterion:

Local Process

The municipality must provide documentation of the standard adopted, the mechanism in place for requiring this criterion for new construction and documentation of how this standard provides reduced life-cycle energy costs.

NOTE: If a Municipality plans to meet this criterion through a local process, they are encouraged to submit a description of how it plans to do so with supporting documentation in advance of applying for designation. In this manner, the Green Communities can provide feedback on the acceptability of the identified process for meeting this criteria.

Stretch Energy Code

The municipality must provide documentation of the city or town vote adopting 780 CMR 120.AA, MA Board of Building Regulations and Standards (BBRS) Stretch Energy Code.

***NOTE: TOWNS THAT HAVE PLACED AN ARTICLE ON THEIR TOWN MEETING WARRANT (PROVIDED THE TOWN MEETING VOTE IS NO LATER THAN THURSDAY, MAY 14, 2010) CAN SUBMIT A DESIGNATION FORM, INDICATING THAT CRITERION #5 IS IN PROCESS. IF THIS APPLIES PLEASE CHECK OFF THE BOX BELOW AND INDICATE WHEN THE TOWN MEETING VOTE WILL OCCUR AND INCLUDE A COPY OF THE APPLICABLE TOWN MEETING WARRANT. TOWN MEETING MUST APPROVE THE STRETCH CODE ARTICLE FOR THE APPLICANT TO RECEIVE CREDIT FOR MEETING CRITERION #5.**

TOWN MEETING VOTE PENDING

Town Meeting Date: _____

REQUEST FOR WAIVER

Pursuant to MGL c. 25A, Section 10(c), the Secretary of Energy and Environmental Affairs may waive these requirements based on a written finding that due to unusual circumstances, a municipality cannot reasonably meet all of the requirements and the municipality has committed to alternative measures that advance the purposes of the green communities program as effectively as adherence to the requirements.

Please select the criteria that the municipality is requesting a waiver for. A letter justifying why the applicant cannot meet this criteria (with supporting documentation) must be attached. In the letter please provide an alternative measure that advances the purposes of the Green Communities program as effectively as adherence to the requirement.

- | | |
|---|--|
| <input type="checkbox"/> As of Right Zoning | <input type="checkbox"/> Expedited Permitting |
| <input type="checkbox"/> Energy Baseline | <input type="checkbox"/> Fuel Efficient Vehicles |
| <input type="checkbox"/> Minimize Life Cycle Cost | |

CERTIFICATION OF APPLICATION

Pursuant to MGL c25A Sections 2 and 10, the applicant is required to certify that they are authorized to execute the application and verify that all information submitted is true.

RESOLUTION OF AUTHORIZATION

Resolved that, Domenic J. Sarno, is authorized to execute said Application on the behalf of the City of Springfield, the applying community and verify that the information in this application is true.

Domenic J. Sarno [signature] 5/12/10 [date]

Mayor [title]

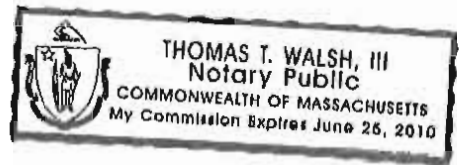
[TO BE COMPLETED BY NOTARY] I, Thomas T. Walsh, III,

as a notary public, certify that I witnessed the signature of the above named

Domenic J. Sarno, and that said person stated that he or she is authorized to execute this resolution, and that the individual verified his/her identity to me, on this date:

May 12, 2010 [date]

Thomas T. Walsh, III [signature]



My commission expires on: June 26, 2010

NOTARY SEAL HERE:

**Criteria 1: As of Right Siting
&
Criteria 2: Expedited Permitting**

Edward M. Pikula, Esq.
City Solicitor

Law Department
36 Court Street, Room 210
Springfield, MA 01103
Office: (413) 787-6085
Direct Dial: (413) 787-6088
Fax: (413) 787-6173
Email: epikula@springfieldcityhall.com



THE CITY OF SPRINGFIELD, MASSACHUSETTS

May 10, 2010

Mark Sylvia, Director
Green Communities Division
Department of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114

RE: MGL C. 25A, Section 10(C), Conditions 2 and 3 (Criteria 1 and 2)

Dear Mr. Sylvia:

It is my opinion, as the City Solicitor for the City of Springfield, that the City of Springfield complies with MGL Chapter 25A, § 10(C) condition 2 and 3, in accordance with DOER guidance on complying with the Green Communities Act. The City of Springfield does:

- (2) provide for the as-of-right siting of renewable or alternative energy generating facilities, renewable or alternative energy research and development facilities, or renewable or alternative energy manufacturing facilities in designated locations;
- (3) adopt an expedited application and permitting process under which these energy facilities may be sited within the municipality and which shall not exceed 1 year from the date of initial application to the date of final approval;

Condition 2, (Criteria 1) as-of-right siting of renewable or alternative energy research and development:

The City of Springfield's Industrial A and Industrial Park Zoning Districts allow by-right siting of research and development and manufacturing facilities that meet the definitions provided.

Mark Sylvia, Director
Green Communities Division
May 10, 2010
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Condition 3, (Criteria 2) permitting process for these energy facilities may not exceed 1 year:

The zoning is very specific that these research and development and manufacturing facilities must be permitted within one year, when they are proposed within the boundaries of a MGL 43D priority development site.

In addition, the area where these facilities are allowed by-right, is also a MGL 43D district with even more stringent time lines for approving any commercial or industrial project. A Site Plan Review for by-right uses within either the Industrial Park or Industrial A zoning districts is not required. The only site plan review required in both these districts is for the uses which would require a special permit.

The relevant sections of the zoning are included herein:

1. The applicable section of zoning bylaw/ordinance.
2. Important zoning definitions.
3. Relevant section of Use Table (not applicable)

Land Availability and Yield Calculations:

Finally, the attached map shows the location of the City of Springfield 's MGL 43D Zoning Districts. These districts contain partially developed sites or are previous manufacturing sites that are ripe for redevelopment. Sites specified on the map indicate the locations of sites capable of containing 50,000 square foot buildings.

It is my opinion, as the City Solicitor for the City of Springfield that the City of Springfield complies with MGL Chapter 25A, § Section 10(C) condition 2 (Criteria 1) and condition 3 (Criteria 2).

Please feel free to contact me or Stephen Colc, Division Coordinator for the Office of Planning & Economic Development if you need any further clarification.

Very truly yours,



Edward Pikula
City Solicitor

SUMMARY ZONING TABLE

	Minimum Lot Size	Minimum Lot Width	Height	Front Yard	Side Yard	Rear Yard	% of Building Lot Coverage
Industrial Park	1.5 Acres	200	60	25	15	25	50
Industrial A	None	None	100	10	None or 10 if abutting residential	15	70
Parking	1 space for each 1,000 s.f. of gross floor area						

YIELD CALCULATIONS: (USING 3 ACRE PARCELS)

Smith & Wesson Industrial Park (Total of approximately 46 buildable acres)

Proposed Parcel Size: 130,680 s.f. (3 Acres)

Lot Coverage: Maximum of 65,340 s.f.

Height: 60 feet

Front Yard: 25 feet

Side Yard: 15 feet

Rear Yard: 25 feet

Parking: 50 spaces required for 50,000 s.f. building (using 300 s.f. per space totals approximately 15,000 s.f.)

Total of building coverage and parking: 80,340 s.f.

Remaining Land: 50,340 s.f.

Chicopee River Business Park (Total of approximately 40 buildable acres)

Proposed Parcel Size: 130,680 s.f. (3 Acres)

Lot Coverage: Maximum of 91,476 s.f.

Height: 100 feet

Front Yard: 10 feet

Side Yard: 10 feet or none

Rear Yard: 15 feet

Parking: 50 spaces required for 50,000 s.f. building (using 300 s.f. per space totals approximately 15,000 s.f.)

Total of building coverage and parking: 106,476 s.f.

Remaining Land: 24,204 s.f.

COMMONWEALTH OF MASSACHUSETTS

CITY OF SPRINGFIELD FINANCE CONTROL BOARD

EXECUTIVE ORDER

#06-09-06-2008

This Executive Order is issued pursuant to the provisions of Chapter 169 of the Acts of 2004, *An Act Relative to the Financial Stability of the City of Springfield*.

An Order Granting Authority to the Chief Development Officer for the City of Springfield
to Submit a 43D Technical Assistance Grant Application on Behalf of the City

WHEREAS, the City's economic growth and development, along with the jobs it can provide, are critical to Springfield's future success;

WHEREAS, the State, pursuant to Chapter 43D, affords municipalities an opportunity to provide further marketing and expedited permitting incentives for potential development on selected parcels;

WHEREAS, the requirements of Chapter 43D requires municipalities to render permit decisions within 180 days or less on the selected parcels;

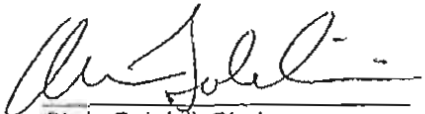
WHEREAS, for the selected industrially zoned parcels, it is fully anticipated that the City will be able to meet the 180 day requirement at the very least;

WHEREAS, pursuant to Chapter 169 of the Acts of 2004, the Springfield Finance Control Board has been granted the authority to exercise all powers under the General Laws and this or any other special act, any charter provision or ordinance that any elected official of the city may exercise, acting separately or jointly;

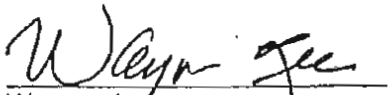
WHEREAS, the Springfield Finance Control Board hereby approves the Chapter 43D Technical Assistance Grant application to apply for technical assistance funds and designate the Springfield Smith & Wesson Industrial Park (parcel number 10360-0245) and the Chicopee River Business Park (parcel number 02195-0100) Priority Development Sites; and

IT IS FURTHER ORDERED, that the Chief Development Officer for the City of Springfield is authorized to submit this 43D Technical Assistance Grant Application on behalf of the City of Springfield.

Executive Order approved by the Finance Control Board on June 9, 2008:



Chris Gabrieli, Chairman
Springfield Finance Control Board

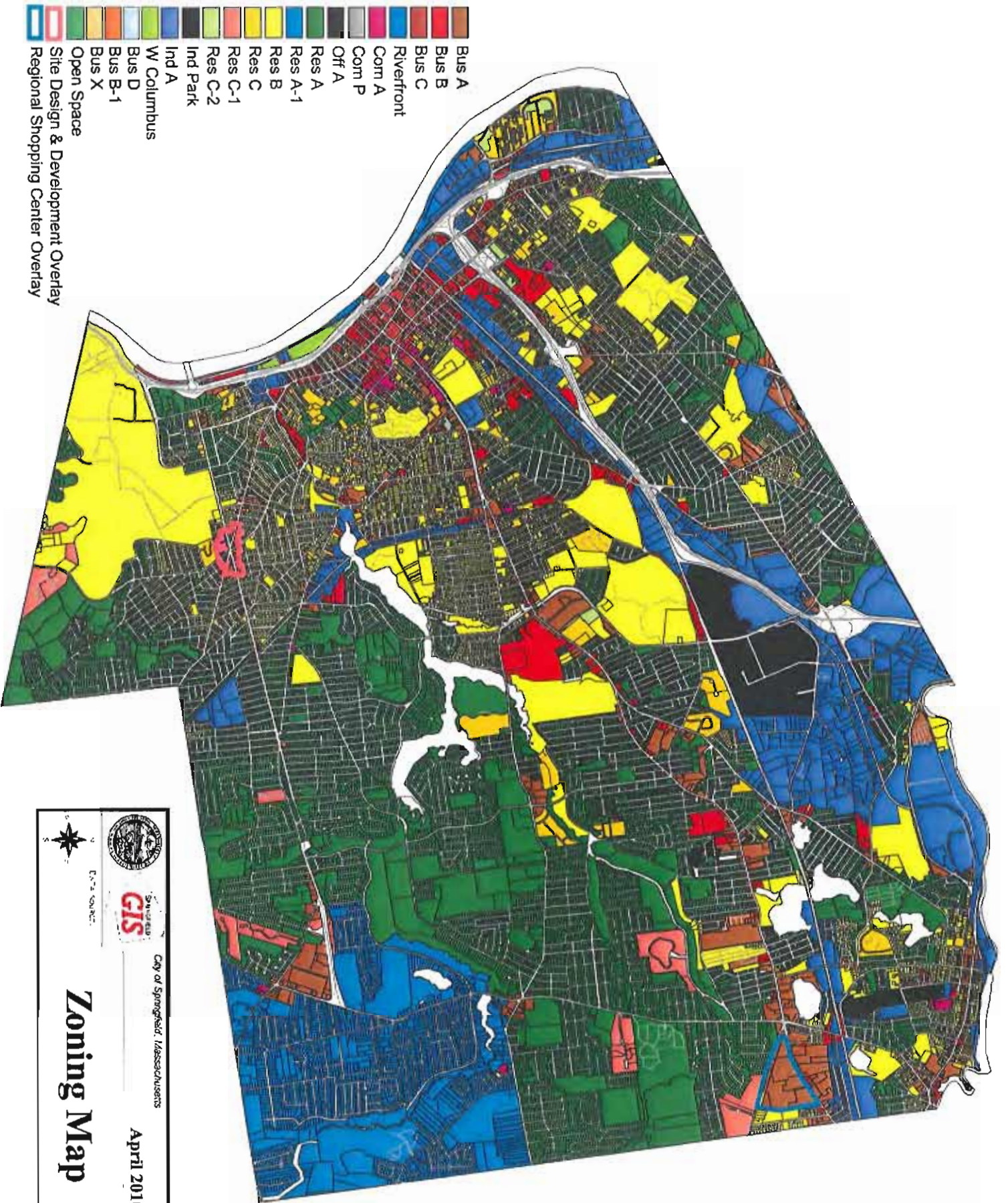


Wayman Lee
Clerk of the Board

A TRUE COPY
ATTEST:



CITY CLERK





 City of Springfield, Massachusetts



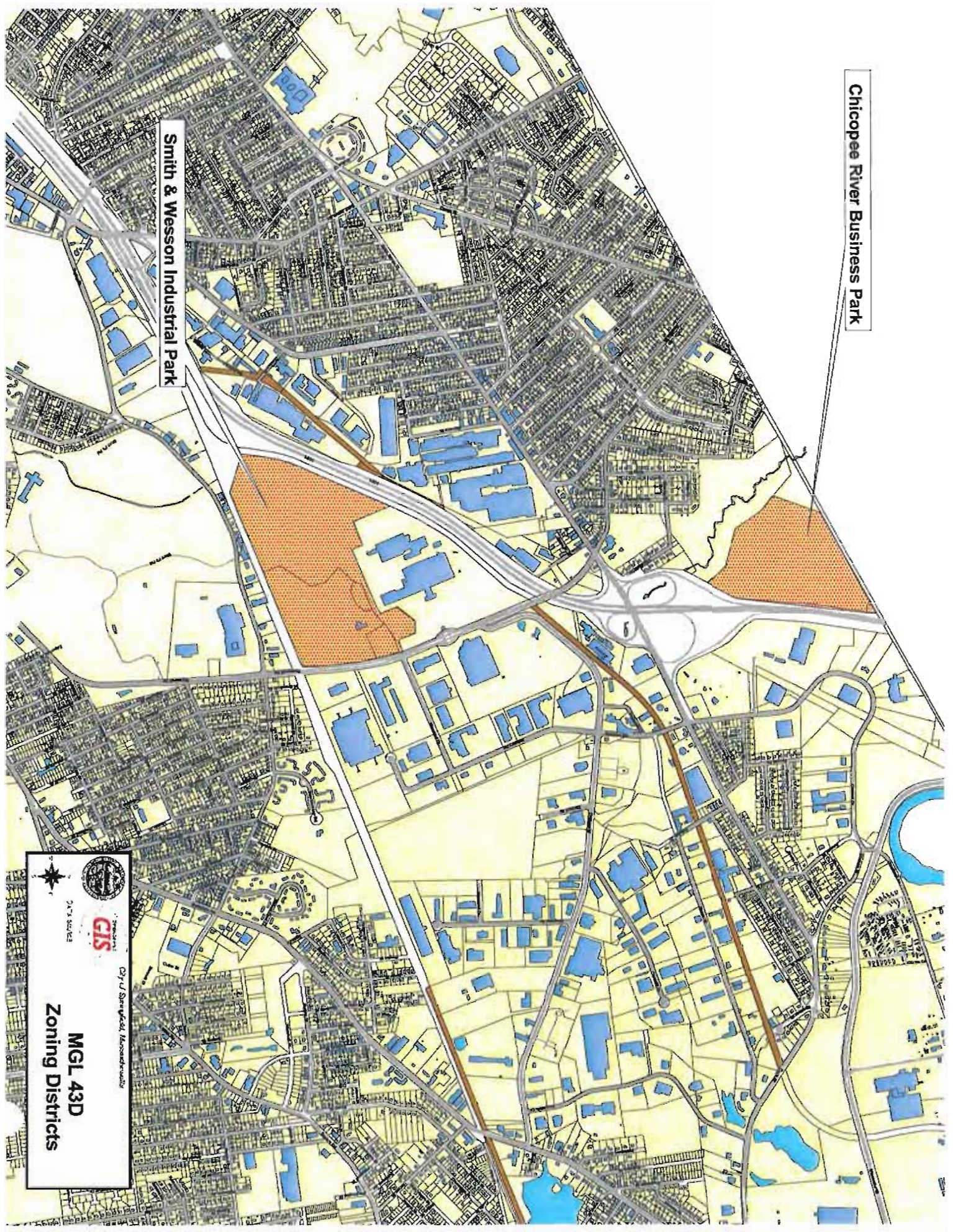
 April 2010

Zoning Map



Chicopee River Business Park

Smith & Wesson Industrial Park



City of Springfield, Massachusetts
GIS
MGL 43D
Zoning Districts

ARTICLE II

DEFINITIONS

Section 200. Building Code Definitions. Article II Definitions and Classifications of the Massachusetts State Building Code 780 CMR relative to the construction and alteration, repair, maintenance and use of buildings in the City of Springfield, Massachusetts, and as later amended, is hereby adopted and made a part of this Zoning Ordinance.

Section 201. Definition of Other Terms. Unless otherwise expressly stated the following words and phrases shall be construed throughout this Ordinance to have the meaning herein indicated. The singular shall include the plural, and the plural shall include the singular. The word "used", shall include the words "arranged", "designed", or "intended to be used". The word "building" shall include the word "structure". The present tense shall include the future tense.

1. Accessory Building. A building subordinate to, incidental to, and located on the same lot with the main building.
2. Accessory Use. A use subordinate and related to the main use of land or of a building on a lot and incidental thereto.
3. Adult Day Care - Residential. Those services, including nursing services, occupational therapy, physical therapy, social, recreational and educational events which are regulated by the Massachusetts Department of Public Health in accordance with 211 CMR 65.00.
4. Adult Retailers. An establishment having as a substantial or significant portion of its stock in trade, books, magazines, videos, peep show booths, and other materials which are distinguished, or characterized by their emphasis depicting, describing, or relating to sexual conduct or sexual excitement as defined in the Massachusetts General Laws, Chapter 272, sec. 31. For the purposes of this ordinance the term "substantial or significant portion" means an amount of stock in trade, books, magazines, videos, peep show booths, and other materials which is greater than 10% of the entire stock.

Adult Theater. An enclosed building used for presenting material distinguished or characterized by an emphasis on matter depicting, describing, or relating to sexual conduct or sexual excitement as defined in the Massachusetts General Laws, Chapter 272, sec. 31, where such material constitutes a substantial portion of this ordinance the

term "substantial or significant portion" means movies, videos, and other materials which are greater than 10% of all of the material presented.

5. Bed & Breakfast Home. A private, owner-occupied house which rents no more than three (3) guest rooms as an overnight or temporary accommodation and includes breakfast in the room rate.

6. Buffer Planting Strip. A strip of land within a parcel that is established to protect an abutting land use from the land use on the subject parcel. A buffer planting strip consists of a pervious landscaped surface, not less in width than is designated in the district, and which is landscaped for the full length and gives maximum protection to an abutting property or district. The required screen shall be permanently maintained. It shall consist of dense evergreens, not less than four (4) feet in height, and an appropriate wall or solid fence, not less than six (6) feet in height. Such a screen shall be three (3) feet back from the street line and conform to the provisions of Section 1506. (See Figure 1.)

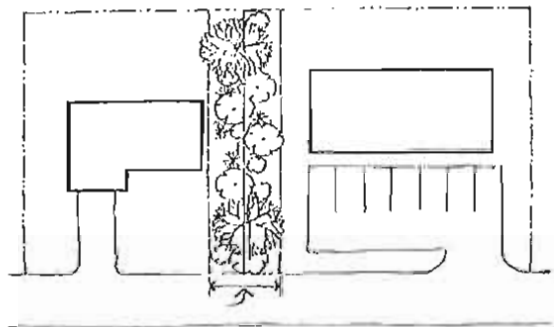


Figure 1: Buffer Planting Strips

7. Building. See Building Code for basic definition.
 - a. Detached. A building which has no party wall.
 - b. Attached or Row. A building which has two (2) or more party walls in common with adjoining buildings.

8. Building Area. The aggregate of the maximum horizontal cross-section areas, excluding cornices, caves, and gutters, of all buildings on a lot.

9. Building Line. The line parallel to the front property line at a distance therefrom equal to the depth of the required front yard, and beyond which a building shall not extend. (See Figure 2.)

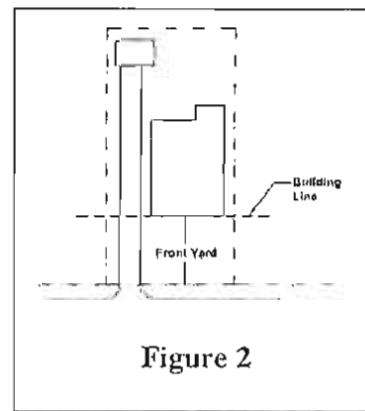


Figure 2

10. Condominium. The land, the building or buildings, all other improvements and structures thereon, and all easements, rights and appurtenances belonging thereto, which have been submitted to the provisions of General Laws, Chapter 183A, as the same may be amended from time to time, in accordance with the provisions of said Chapter.
11. Day Care Center. Any facility operated on a regular basis whether known as a day nursery, nursery school, kindergarten, child play school, progressive school, child development center, or pre-school, or known under any other name, which receives children not of common parentage under seven years of age, or under sixteen years of age if such children have special needs, for nonresidential custody and care during part or all of the day separate from their parents.
12. Drive In Restaurants. A place of business so laid out that patrons can be accommodated while remaining in their automobiles.
13. Drive Through Window. Any portion of a commercial establishment that, by design, is an automatic teller machine or allows for customers to interact with an employee of the establishment through a window or similar structural feature while remaining in their vehicle. See Section 1519.
14. Domestic Animal. Any animal that is kept for personal use or enjoyment within the home provided that such creatures are not kept to supplement food supplies or are used for any commercial purposes whatsoever other than offering for sale one litter, brood or offspring of a household pet domiciled on the premises. A domestic animal shall include but is not limited to dogs, cats, birds, and reptiles. A domestic animal does not include farm animals such as horses, ponies, cows, pigs, chickens, roosters, goats, or sheep.
15. Dwelling.
 - a. Single-family. A building, on a lot, designed and occupied exclusively as a residence for one (1) family.
 - b. Two-family. A building, on a lot, designed and occupied exclusively as a residence for two (2) families.

- c. Multiple or Apartment. A building(s), on a lot, designed and occupied exclusively as a residence for three (3) or more families living independently of one another.
- 16. Family. An individual or two (2) or more persons related by genetics, adoption or marriage, living and cooking together as a single housekeeping unit or a group of three (3) or fewer persons who are or who are not related by genetics, adoption or marriage, living and cooking together as a single housekeeping unit.
- 17. Family Day Care. Any private residence which on a regular basis, receives for temporary custody and care during part or all of the day, children under seven years of age or children under sixteen years of age if such children have special needs; provided, however, in either case, that the total number of children under sixteen in a family day care home shall not exceed six, including participating children living in the residence.
- 18. Front Lot Line. The property boundary line abutting the street line.
- 19. Garage-Residential. A building used for the storage of one or more automobiles owned and used by the owner or tenant of the lot on which it is erected for a purpose accessory to the use of the lot.
- 20. Garage Parking. A building or structure for the storage or parking of more than three (3) passenger motor vehicles or motor powered boats or more than one (1) commercial motor vehicle.
- 21. Garden Apartment Project. A multi-family building or group of buildings constructed as a project area with an emphasis on sensitivity to the surrounding environment.
- 22. Height of Building. A building's vertical measurement from the mean level of the ground abutting the building up to the highest point of the roof; provided that chimneys, spires, towers, elevator penthouses, tanks, and similar projections of the building, and structures supporting utility or transmission facilities, shall not be included in calculating the height.
- 23. Hotel. A building, or portion of a building with access provided through a common entrance, lobby or hallway to one or more guest rooms, designed to be rented out as temporary or overnight accommodations for guests. This definition shall not include a Bed & Breakfast Home, Lodging House or Motel, as defined separately in this section.

24. Institution. Any hospital, sanitarium, rest home or convalescent or nursing home, infirmary maintained in the City; any private infirmary, rest home or charitable home for the aged, licensed by and under the supervision of the Massachusetts Department of Public Health; and hospital, sanitarium or establishment, public or private, licensed by and under the supervision of the Massachusetts Department of Mental Health under the provisions of Section 40 of Chapter 123; and any building used or occupied for the purpose of providing group care therein by any children's foster care agency licensed by the Department of Public Welfare under the provisions of Section 15 of Chapter 119.
25. Junk Yards. Any land used for the deposit, collection or storage of waste, used or discarded things or materials, whether or not in connection with the dismantling,
26. processing, salvage, sale or other use or disposition thereof; and the deposit or storage on any lot of "two (2) or more wrecked, inoperative or unregistered vehicles", or parts thereof, for one month or more shall be deemed to be a junk yard. Garaged vehicles shall be exempt from this provision.
27. Kennel. Any property wherein any person engages in the business of boarding, breeding, buying, letting for hire, training for a fee or selling domestic animals or a place where four (4) or more domestic animals are kept.
28. Landscaping. That portion of a lot that is free of structural improvements and/or impervious surface but improved with pervious and planted materials such as grass, trees, shrubs and other live plant materials.
29. Lodging or Boarding House. A building in which lodgings are let to four (4) or more persons who do not constitute a family and who occupy the premises as a principle place of residence as defined in Section 201.16 of this ordinance. In the case of a college or other institutional owner, the owner must provide a Residential Assistant as the primary occupant.
30. Lot. Shall mean an area of land in one ownership with definite boundaries as shown in the record title of the property or by a plan recorded in the Registry of Deeds.
31. Medical Office Building. A building used for professional offices for medical, surgical, dental, physical, rehabilitation, mental health, and

32. other health care providers, related support services, pharmacies, and laboratories, and usual and customary accessory facilities thereto. Said medical office building shall in no case include provisions for overnight patient care.
33. Membrane-Covered Frame Structure. Primary or accessory structure consisting of a frame with a soft membrane covering.
34. Mobile Home. A structure transportable in one or more sections, which is eight body feet or more in width and is thirty two body feet or more in length, and which is built on a permanent chassis, and designed to be used as a dwelling with permanent foundation, when connected to the required facilities, and includes the plumbing, heating, air-conditioning and electrical systems contained therein.
35. Mobile Home Park. Any lot or tract of land upon which three (3) or more mobile homes occupied for dwelling purposes are located, including any building, structures, fixtures and equipment used in connection with mobile homes (G.L.C. 140, s. 32F).
36. Motel. A building, or portion of a building with access to one or more guest rooms provided by exterior or partially-enclosed walkways, designed to be rented out as temporary or overnight accommodations for guests.
37. Motor Vehicle Service 1 - Motor Vehicle Refueling Station/Convenience Store. A building used for the dispensing of petroleum products which may have accessory facilities such as a convenience store, air pressure/inflation machine and hand window cleaning.
38. Motor Vehicle Service 2 - Service Station. A building used for the servicing and maintenance of motor vehicles including such uses as engine tune-ups, tire changing, dispensing of gas, oil, and other similar products.
39. Motor Vehicle Service 3 - Repair Garage. A building used for the repair of motor vehicles including but not limited to transmission repair, engine overhaul, brake/muffler work and glass replacement.
40. Motor Vehicle Service 4 - Auto Body and Truck Service. A building used for the major repair of motor vehicles, and motor vehicle parts including but not limited to such uses as tire capping, re-treading, auto

painting, and auto body work. Truck and heavy equipment servicing, both for maintenance, repair and major repair, shall be considered a Motor Vehicle Service 4 use.

41. Motor Vehicle Service 5 – Sales and Installation. A building used for the sale of motor vehicle parts, not including brakes, mufflers, and engine parts, and related installation of parts sold. Such activities would include installation of automotive accessories such as wipers, air filters, stereos, and would also include detailing/ reconditioning.
42. Non-Conforming Building or Use. A building or a use of land or of buildings existing at the effective date of this Ordinance, or any amendments thereto which does not conform with the requirements of this Ordinance, or any amendments thereto.
43. Off-Street Parking Space. An on-the-lot space (garage or outdoor) of appropriate location and dimensions for the parking of an automobile.
44. Off-Street Loading Space. An on-the-property space for the temporary parking of a commercial vehicle while loading or unloading merchandise or material, which abuts upon a street, alley, or other appropriate means of access. Such space shall be not less than ten (10) feet in width, fourteen (14) feet in height, and of such length that a truck or trailer occupying such a space shall be located entirely on the lot with the building it is to serve and shall not extend into the sidewalks or the street.
45. Principal Building. The main building on a lot, or any building other than an accessory building. Each building that contains a residence or residences, and each commercial, industrial, or institutional building which houses a separate commercial, industrial or other enterprise, or a group of permitted commercial or industrial uses, shall be construed to be a principal building for the purpose of the Ordinance.
46. Project Area. A development of land consisting of two (2) or more principal residential buildings that is under unified control and is planned and developed as a whole. The development may include driveways, utilities, buildings, open spaces and other site improvements.
47. Rear Lot Line. The lot line opposite to the front property line or in the case of a corner lot, the rear lot may be elected by the owner, provided that it be indicated on the plans as filed with the Code Enforcement

48. Commissioner. In the case of a corner lot, the rear lot line must be an interior lot line.
49. Recreational Vehicle. A portable structure designed as a temporary residential living unit for travel, recreation or vacation use. These vehicles include, but are not limited to a travel trailer, motor home, 5th wheel trailer, tent trailer, or pick-up camper.
50. Recycling Center. Any building used for the collection and/or processing of used materials whereby the resultant product is to be re-used in the same or different form or manner. This shall not include the storage or salvage of motor vehicles or white goods.
51. Residential Rehabilitation Center. A residence or group home for not more than twenty (20) persons, the purpose of which shall be for the continued rehabilitation of individuals with social and emotional problems who would further benefit by such a half-way house facility. These residences must be operated by persons appointed by an appropriate competent authority and licensed by a State of Massachusetts agency. If such a residence is used solely for the raising of foster children, not more than five (5) such children will be allowed per home.
52. Single and Separate Ownership. The ownership of a lot by one or more persons, partnerships, or corporations, which ownership is, separate and distinct from that of any adjoining lot.
53. Special Permit Granting Authority. The City Council, Planning Board, or Board of Appeals designated for the issuance of special permits.
54. Street. A street, road, or way which has been dedicated as a public way or has been devoted to public use.
55. Street Line or Street Right-of-Way Line. The dividing line between a property line of a lot and the outside boundary of a street, or between a lot and a private street, road, or way over which the owners or tenants of two (2) or more lots held in single and separate ownership have the right-of-way. (See Figure 3.)

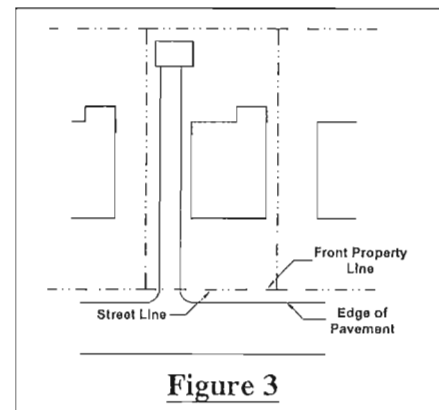


Figure 3

56. Swimming Pool. Either (a) a below-ground pool; artificial pool of water located below surrounding grade, and having a depth of a least thirty-six (36) inches, as measured from the lowest point in the pool a vertical distance to the ground level; or (b) an above-ground pool; artificial pool of water located above surface grade with a diameter of fifteen (15) feet or greater at the outside dimensions, and a capacity to hold water to a depth of thirty-six (36) inches or more.
57. Telephone Central Office. A building and its equipment erected and used for the purposes of facilitating transmission and exchange of telephone or radio-telephone messages between subscribers, and other business of the telephone company; but in residence districts not to include public business facilities, storage of materials, trucking or repair facilities, or housing of repair crews.
58. Truck Stop. A fuel dispensing and repair service facility designed to accommodate primarily the trucking industry. Accessory uses common to a truck stop may include such things as a restaurant, shower facilities, lodging facilities, and short-term parking areas.
59. Wireless Telecommunications Facility. A commercial or public utility-operated use designed to facilitate wireless communications and similar uses through a tower, antenna, satellite dish, monopole and/or similar facility.
60. Yard. All yards shall be exclusive of overhanging eaves, gutters, cornices (of less than three (3) feet in length on main building and twelve (12) inches on accessory buildings) and steps. Parking spaces and drives shall be permitted in yards except where specifically prohibited or regulated.

- a. Front Yard. The minimum required open, unoccupied spaces, within and extending the full width of a lot, between the front property line and the parts of a building nearest to such front property line. In the case of a corner lot, the front yard shall be determined by that side of the building which contains the main door. (See Figure 4.)

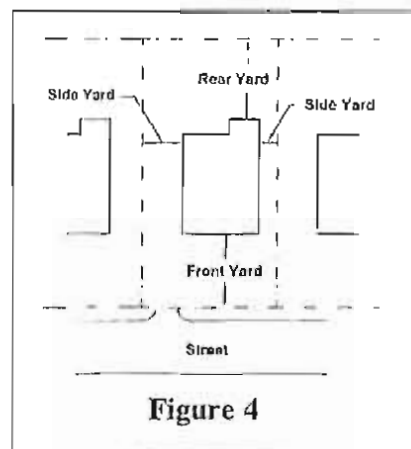


Figure 4

II-10

- b. Side Yard. The minimum required open, unoccupied space within the lot between a side lot line and the parts of the building nearest to such side lot line. Such a side yard must extend through for the required width from the front property line or the front yard to the rear yard or its equivalent or to another street. (See Figure 4.)
 - c. Rear Yard. The minimum required open space, the full width of the lot, between the rear wall of the building throughout its height and the rear line of the lot. In case of a triangular lot, the rear yard shall be the open space between the rear wall of the building and a line half-way between it and the point of intersection of the side lines of the lot. In no case shall the rear yard be located between the house and the street. (See Figure 4.)
59. Zone Map. A part of this Ordinance which may be amended, altered, or changed only in accordance with the provisions set forth in Article XX, Section 2004. The Zone Map due to its size is incapable of being included within this volume but may be obtained on request from the Planning Department.

ARTICLE XIII

INDUSTRIAL PARK DISTRICTS

Section 1300. Intent. The purpose of this section is to establish Park Districts, and to regulate land uses to insure compatibility of development, both within the District and with adjacent uses and users by means of the following performance standards, area requirements and other regulations.

Section 1301. Use Regulations. Within any Industrial Park District, as indicated on the Building Map, no building, structure or land shall be used and no building or other structure shall hereafter be erected, altered or enlarged except for the following:

1. Manufacturing.
2. Fabricating.
3. Processing.
4. Packing.
5. Office Buildings.
6. Public Utility uses.
7. Research laboratories and research facilities.
8. Accessory buildings located on the same lot with the main buildings.
9. Accessory uses located on the same lot with the main buildings.
10. Temporary structures on a lot for uses incidental to construction work on that lot or lots abutting, which structures shall be removed immediately upon completion or abandonment of the construction work for which they were erected.
11. Signs in conformance with Article XVIII.
12. Restaurants and banks.
13. Warehousing.
14. As an accessory use to a permitted manufacturing or warehousing use, retail sales shall be permitted, but in no case shall such retail sales exceed twenty-five

(25) percent of the total sales of the establishment.

15. Heliport.
16. Wireless communications facility as an accessory use to one of the above uses and further subject to the restrictions prescribed in Article XIV-E.

Section 1302. Prohibitions. Within any Industrial Park District, NO buildings shall be erected, altered or enlarged and NO land shall be used for the following:

1. Abattoir.
2. Asphalt manufacturing or refining.
3. Building material manufacturing and distribution where outside storage or manufacturing operations are required.
4. Commercial coal yard or coal storage.
5. Creosote manufacturing.
6. Distillation of coal, wood or bones.
7. Explosives or fireworks manufacturing.
8. Fat rendering.
9. Fertilizer or potash manufacturing or refining.
10. Glue or size manufacturing or process involving recovery from fish or animal offal.
11. Gypsum, cement, plaster, or plaster of paris manufacturing.
12. Incineration except for the destruction of wastes resulting from the primary use of the land and in compliance with the provisions of Article XIII Industrial Park Districts.
13. Motor vehicle repairing.
14. Reduction of or dumping of offal, garbage, or refuse.
15. Junk or salvage yard or junk or salvage storage.

16. Petroleum refining.
17. Sewage disposal plant EXCEPT where controlled by a municipality.
18. Tar distillations.
19. Tar roofing manufacturing.
20. Trash hauling services or the storage of trash hauling vehicles and associated equipment such as trash bins.
21. The temporary storage of trucks or truck bodies as a principal use of a parcel or not accessory to the principal use of the parcel.

Section 1303. Lot Sizes.

1. The minimum area of any lot shall be one and one-half (1-1/2) acres.
2. The minimum width of any lot shall be two hundred (200) feet measured along the street line at the front of the lot.
3. The minimum width of any lot at the front building line shall be two hundred (200) feet.
4. The minimum depth of any lot, as defined in Article II, shall be two hundred (200) feet.
5. Every lot shall have frontage on a public way, or a private way approved by the Planning Board.

Section 1304. Lot Coverage and Setbacks.

1. **No building or structure, either permanent or temporary, shall be erected or used above the surface of any front yard, side yard, or rear yard, as defined herein, EXCEPT as provided in Section 1307, and Section 1304-8, and Section 1304-2.**
2. **The maximum aggregate land area that may be covered by principal and accessory buildings on any lot shall not exceed fifty (50) percent of the total area of the lot.**
3. **The minimum depth of the front yard as defined in Article II, shall be twenty-five (25) feet.**
4. **The minimum width of side yards, as defined in Article II, shall be fifteen**

(15) feet and FURTHER, no permanent building or structure shall be erected nearer to any side lot line than the height of such building or structure above the level of the

ground at said side lot line of the site nearest opposite to the highest point of such building or structure. This limitation shall not apply to accessory towers, tanks, antennae and similar accessory structures. Where a side yard abuts a railroad right-of-way, the side lot line shall be deemed to be the center of the railroad right-of-way for the purpose of this paragraph 4.

5. The minimum depth of the rear yard, as defined in Article II, shall be twenty-five (25) feet. Where a rear yard abuts a railroad right-of-way, the rear lot line shall be deemed to be the center line of the railroad right-of-way for the purpose of this paragraph 5.
6. Any setback or yard provided on a lot, in accordance with the requirements of this Article XIII, shall NOT be considered as satisfying the yard or setback requirements for any other lot. Setbacks and yard requirement shall apply separately and individually to each lot.
7. Every required front, side or rear yard shall be kept open and unobstructed above the surface of the ground, and shall be maintained firm enough to accommodate the passage of fire and other emergency vehicles at all time. Nothing contained herein shall prohibit the erection, maintenance and use of structures for utilities, PROVIDED that such structures do not project more than five (5) feet from the side or rear lot lines and do not prevent the passage of fire and other emergency vehicles at all times.
8. Nothing contained herein shall prohibit the construction of railroad tracks and sidings in required rear or side yards so as to accommodate the passage of emergency vehicles at all times.

Section 1305. Building Dimensions.

1. The maximum height of any building or structure, other than office buildings, accessory towers, tanks, antennae, and other similar accessory structures, shall be sixty (60) feet above the general finish grade adjacent to such building or structure.
2. The minimum ground floor area of the principal building erected or altered on any lot in these Districts shall be four thousand (4,000) square feet.

Section 1306. Off-Street Parking and Loading. The following off-street parking and loading provisions shall apply in all Industrial Park Districts:

1. Adequate off-street parking areas shall be provided for the vehicles of

employees, visitors, and other vehicles incidental to the use of any lot with a minimum of one (1) parking space for each one and one-half (1-1/2) employees employed in the principal shift at peak employment, plus one (1) parking space for each vehicle normally operated on the premises in the conduct of the business.

2. The total parking area required for each lot shall be increased proportionately to provide parking areas for additions to plant employment in accordance with the ratio expressed in Section 1306-1.
3. Sufficient area to provide adequate parking spaces for any lot shall be surfaced with a minimum of ten (10) inch compacted bank-run gravel base and two (2) inches of bituminous concrete or a comparable all-weather, dustless surface clearly marked for parking.
4. Parking bay size is controlled by Article XVII, Section 1702-2. Sufficient additional space shall be provided in parking areas for turning of vehicles.
5. Parking areas may be used by two or more plants when the total number of parking spaces provided is not less than the sum of the spaces required for each plant.
6. Required parking areas may be provided on either the lot upon which the principal building is located or on any lot the nearest point of which is not more than five hundred (500) feet distant from the nearest point of the property line of the lot where the principal building is located.
7. Access drives, turn-around areas, loading or unloading spaces, and other areas normally used by vehicles on the lot shall be surfaced as required under Section 1306-3.
8. **Loading and unloading of vehicles shall be conducted with such vehicles parked completely off any public way. Wherever practicable, all loading and unloading shall be on those sides of the building which do not face a public way. Where loading and unloading must be conducted on any side of a building facing a public way, the building shall be so arranged so that no part of a truck or other vehicle shall be closer than ten (10) feet to the street line. Loading or unloading space shall be made off the public way.**
9. Areas required for parking under the provisions of Section 1306-1 may be used for loading or unloading operations only during those periods when the parking spaces are not required to accommodate the needs for which they are provided.
10. Front yard parking shall be permitted PROVIDED all requirements relative to required front yards are met.

Section 1307. Performance Standards.

All uses shall conform to the performance standard requirements set forth in Section 1511.

Section 1308. Materials and Equipment Storage.

1. The storage of equipment or materials outside of buildings is permitted only under the following conditions:
 - a. The storage shall be in an area enclosed by an opaque fence or sight obscuring screening, either of which shall not be less than six (6) feet nor more than ten (10) feet high.
 - b. No materials or stored equipment shall project above such fence or screening EXCEPT for temporary storage of materials and equipment intended for use in construction during the actual period of active construction.
 - c. Raw materials essential to the principal use of the lot may be stored in tanks and other types of structures permanently secured to the ground or building.

Section 1309. Fencing. Fencing may be erected where it is necessary to protect property or

other activity of the occupant, to comply with security regulations of governmental bodies, or to protect the public from dangerous conditions, with the following:

1. No fence shall be constructed beyond the building lines, as established under the requirements of Section 1304.
2. Fences, other than storage shielding fences described in Section 1308-1, shall be of substantial open wire mesh or chain link construction or other open construction of substantial design and shall be erected and maintained in true line.

Section 1310. Landscaping. All required front, side and rear yards, EXCEPT those portions

paved as driveways, access roads, loading and parking areas, or railroad tracks, shall be loamed and seeded and maintained as lawns, or developed and maintained as gardens. Notwithstanding the provisions of Section 1304-7, landscaping materials such as ornamental shrubs, trees or ground cover material

may be located in required front, side and rear yards PROVIDED they do not interfere with the passage of fire or other emergency vehicles.

All areas at the front of buildings, and at the sides of buildings, which face a public way shall be loamed and seeded and maintained as lawns, EXCEPT where portions of those areas are paved for permitted uses. Ornamental shrubs, trees, flowers or ground cover may be planted in these areas.

ARTICLE XIV

INDUSTRIAL A DISTRICTS

Section 1400. Intent. Industrial A Districts make provisions for the full range of industrial and business uses compatible with a major urban center. However, special review and approval is required in the case of certain potentially hazardous or obnoxious uses. Because of the densely developed character of the city, certain other such uses are prohibited.

Section 1401. Use Regulations. Buildings may be erected or used, and a lot may be used or occupied for any of the following purposes and no other:

1. All uses in Section 1101, paragraph 1-11i - except a residential structure or mobile home as a main use, a heliport, a motor vehicle service station, a car wash establishment, the buying and selling of second-hand motor vehicles and a truck stop -- are permitted outright.
2. All other manufacturing, fabricating, processing, storage, retail or service uses EXCEPT those listed in Section 1401-3 below.
3. The following uses only when authorized as a special permit by the City Council, subject to the general provisions prescribed in Section 2005:
 - a. Abattoir.
 - b. Ammonia, chlorine or bleaching powder manufacture.
 - c. Asphalt manufacture or refining.
 - d. Celluloid manufacture (except in isolated, fire-resisting buildings).
 - e. Coal tar products manufacture.
 - f. Creosote manufacture.
 - g. Distillation of coal, wood or bones.
 - h. Explosives or fireworks manufactures.
 - i. Fat rendering.

XIV-2

- j. Fertilizer manufacture or potash refining.
- k. Glue or size manufacturing or process involving recovery from fish or animal offal.
- l. Gypsum, lime cement, plaster of paris or plaster manufacture.
- m. Helicopter or airplane landing facility.
- n. Incineration, reduction of or dumping offal, garbage, or refuse on a commercial basis, EXCEPT where controlled by the municipality.
- o. Iron, steel or other metal manufacture or processing, drop forging with power hammer, boiler works, heavy weight casting including galvanizing and other treatment.
- p. Junk yard or junk storage (see also Section 1508).
- q. Leather processing.
- r. Linoleum manufacture.
- s. Motor vehicle service station, car wash establishment, or the buying and selling of second hand motor vehicles.
- t. Paint manufacture.
- u. Paper manufacture.
- v. The manufacture, refining or bulk storage of petroleum and products made therefrom.
- w. Plastic manufacture or the manufacture of articles therefrom.
- x. Poisonous gases.
- y. Quarry.
- z. Rubber, caoutshouc or gutta percha manufacture from crude or scrap material.
- aa. Sewage disposal plant, EXCEPT where controlled by the municipality.

- bb. Soap manufacture.
 - cc. Sulphurous, sulfuric, nitric, or hydrochloric acid manufacture.
 - dd. Tar distillation and tar roofing manufacture.
 - ee. Building for storage of used materials.
 - ff. Truck stop.
 - gg. Recycling Center.
 - hh. Trash hauling services or the storage of trash hauling vehicles and associated equipment such as trash bins.
 - ii. The temporary storage of trucks or truck bodies as a principal use of a parcel or not accessory to the principal use of the parcel.
4. No building or other structure shall be erected, altered, or used, and no land shall be used or occupied for residential purposes, EXCEPT where subdivision plans or individual building lots existed, and were duly recorded or registered prior to the enactment of this amendment. (August 12, 1962). The dwelling or dwellings of caretakers or watchmen located on the premises where such use is incidental to the principal permitted use are exempt from the above provisions.

Section 1402. Area and Height Regulations. Every building shall comply with the following area, yard and height regulations.

1. Building Area. Not more than seventy (70) percent of the area of each lot may be occupied by buildings.
2. Front Yard. There shall be a setback on each street on which a lot abuts which shall be not less than ten (10) feet.
3. Side Yard. None required, EXCEPT that where a lot abuts a residential district, or a street on side lot line, a side yard shall be provided which shall be not less than ten (10) feet. In any case, where side yards are provided, although they are not required, each side yard shall be not less than five (5) feet in width. Where a side yard abuts a railroad right-of-way, the side lot line shall be deemed to be the center of the railroad right-of-way for the purpose of this paragraph 3.

XIV-4

4. Rear Yard. There shall be a rear yard on each lot which shall be not less than fifteen (15) feet in depth or the height of the building, whichever is greater. Where a rear yard abuts a railroad right-of-way, the rear lot line shall be deemed to be the center line of the railroad right-of-way for the purpose of this paragraph 4.
5. Height. No building shall exceed one hundred (100) feet in height.

Section 1403. Performance Standards. Any uses permitted in Industrial A Districts must also conform to all of the performance standards contained in Section 1511.

Section 1404. Special Regulations. In order to encourage sound and attractive industrial development, the following special requirements shall apply:

1. Along each side or rear property line, which directly abuts a residential district in the city or similar districts in an adjoining municipality, a buffer planting strip not less than ten (10) feet in width, as defined in Section 201-3 shall be provided.
2. Off-street parking, off-street loading and special requirements related to highway frontage described in Article XVII, Section 1502 shall apply in Industrial A Districts.

Criteria 3:
Energy Baseline / 20% Energy Reduction Plan



THE CITY OF SPRINGFIELD, MASSACHUSETTS

MAYOR DOMENIC J. SARNO

HOME OF THE NATIONAL BASKETBALL HALL OF FAME

April 29, 2010

Mark Sylvia, Director
Green Communities Division
Department of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114

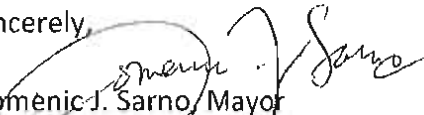
RE: Springfield Adopts Energy Reduction Plan

Dear Mr. Sylvia:

Please find enclosed Springfield's 20% Energy Reduction Plan. Springfield is committed to adopting the measures outlined in this plan and foresees a 20% reduction of municipal energy use between Fiscal Years 2007 and 2012. We are proud to set this goal for our city as part of the larger Green Communities initiative.

Thank you for your time and please contact us with any questions.

Sincerely,


Domenic J. Sarno, Mayor


Lee C. Erdmann, Chief Administrative and Financial Officer

Edward M. Pikula
City Solicitor

Law Department
36 Court Street, Room 210
Springfield, MA 01103
Office: (413) 787-6085
Direct Dial: (413) 787-6098
Fax: (413) 787-6173
Email: epikula@springfieldcityhall.com



THE CITY OF SPRINGFIELD, MASSACHUSETTS

April 28, 2010

Mark Sylvania, Director
Green Communities Division
Department of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114

Re: *The City of Springfield's 20% Energy Reduction Plan and Vehicle Purchasing Policy*

Dear Mr. Sylvania,

As the City's Chief Legal Counsel, it is my opinion, that the Mayor, as the City of Springfield's Chief Executive Officer and the City's Chief Administrative and Financial Officer (CAFO), have the authority to establish and enforce city-wide policies, including policies pertaining to the business and financial services department of the school department and those of the city under the authority of the CAFO. This is provided for pursuant to Chapter 468, Acts of 2008, Section 1 which states: "*the city of Springfield shall be deemed to have accepted section 37M of chapter 71 of the General Laws for the purpose of consolidating the operations of the business and financial services department of the school department with those of the city under the authority of the CAFO.*"

Twenty Percent (20%) Energy Reduction Plan (Criteria 3):

Measures highlighted in the City's 20% Energy Reduction Plan would be managed by City departments through the oversight of the Mayor and the CAFO. Municipal, as well as school buildings are operated and maintained by the City's Building Management Department. The City DPW Fleet Division monitors the gasoline usage of all city-owned vehicles which is also examined by the City's Finance Department. The City of Springfield doesn't own any of the traffic/street lights within the City's borders, but the City's Building Management Department does track and reconcile the utility usage before paying the bills while communicating regularly with the utility company with regard to usage.

Purchasing Fuel Efficient Vehicles (Criteria 4):

The procurement of all municipal and school vehicles is managed by the City's Office of Procurement. The School Department, as a city department must go through City's Office of Procurement to purchase any/all vehicles. The City's Chief Procurement Officer, who is appointed by the Mayor, per M.G.L. Chapter 30B is *an individual duly authorized pursuant to law, charter, or local by-law to procure a supply or service for a governmental body or to dispose of a supply, including an individual duly delegated to take any action in connection with a procurement, and further including any member of a board, committee, commission, or other body who participates in a procurement.*

Please feel free to contact me or Cheryn Wojcik, the City's Grants Director if you need further clarification.

Very truly yours,

A handwritten signature in black ink, appearing to read "Edward M. Pikula". The signature is fluid and cursive, with a large, sweeping flourish at the end.

Edward M. Pikula
City Solicitor

SPRINGFIELD 20% ENERGY REDUCTION ACTION PLAN

PURPOSE AND ACKNOWLEDGEMENTS

Letter from municipal officials verifying adoption of the energy reduction plan: See attached copy.

List of contributors that participated in the baseline and reduction plan process:

Patrick Sullivan - Director of Parks, Recreation and Buildings Maintenance, City of Springfield
Mario Mazza - Deputy Director of the Department of Public Works, City of Springfield
William Pianka - Fleet Manager, Department of Public Works, City of Springfield
Cheryn Wojcik - Grants Director, City of Springfield
Joe Forest - Facilities Engineer, City of Springfield
Michael Gibbons - Energy Conservation Manager, City of Springfield

Executive Summary: Springfield is committed to taking action to reduce energy use not only through energy efficiency and conservation measures, but also through transition to clean, safe, sustainable energy generation. Springfield is confident that it can achieve 20% reduction in municipal energy use from a baseline of 470,587 million British Thermal Units (MBTUs) in Fiscal Year 2007 to 369,060 MBTUs in Fiscal Year 2012.

This action plan includes background information on Springfield, list of the City's current green initiatives and ongoing Improvements, an analysis of the last three Fiscal Years' energy usage, areas in need of improvement, and a set of short and long term goals/strategies for improving the City's energy efficiency.

INTRODUCTION

Background: The City of Springfield was founded in 1636, and now has a population of 153,386 citizens. The City has 119 municipally owned and operated buildings including 49 schools, as well as 225 vehicles in the municipal fleet.¹

The City of Springfield is dedicated to becoming a state certified Green Community. The following actions are just some of the actions that the City has done or is undergoing to demonstrate this commitment:

- ✓ Beginning in Fiscal Year 2007, the City contracted and completed the first phase of an Energy Savings Contractor Project (ESCO) which included 138 energy conservation measures in 28 facilities at cost of \$15.1 million. In addition to ESCO Phase 1, the City completed renovations at another 23 sites. In addition to boiler, water heater and lighting renovations, etc., the Facilities Management installed web-based energy management systems and now controls a total of 38 facilities. Renovating these buildings has helped the City save energy as well as money (estimated to be roughly 10% per year and over \$1.2 million).
- ✓ The City was awarded stimulus funds to complete five high efficiency boilers and three energy management systems and one set of solar panels for municipal facilities. As part of those stimulus funds, the City has also hired an Energy Conservation Manager who will help oversee these system upgrades.

¹ This figure excludes those vehicles that are exempt like heavy-duty public works/safety vehicles and police cruisers.

- ✓ To further assist in its repairs and system replacements, the City applied for and was awarded the EPA Climate Showcase Community Grant which will fund four positions to complete preventative maintenance and energy audits in all of the facilities with the schools as first priority.
- ✓ The City has begun inputting its utility usage data into the Environmental Protection Agency (EPA) Energy Star Portfolio Manager system and will be utilizing the Massachusetts Department of Energy and Resources MassEnergyInsight as well. The City hopes that these systems will give it the tools to better understand, track and report on its data which can lead to more well-rounded policy decisions.

The City of Springfield Facilities Department has tracked energy use for all City owned buildings, facilities, street, and traffic lights since 2007, while the City's Department of Public Works monitors vehicle fuel use. The total Energy Use Baseline including street and traffic lights, buildings, and vehicles is 470,587 MBTUs.² The City will be using Fiscal Year 2007 as its base year.

Springfield has a goal of reducing energy use by 20% from 2007 levels by 2012. Completing energy efficiency projects will be the first strategy. Springfield will continue to replace boilers, install energy management system, install variable frequency drives, high efficiency motors, insulate buildings, upgrade lighting, replace windows and install new roofs in the City owned facilities. Springfield has entered into an agreement with Western Massachusetts Electric Company to complete lighting retrofits in school, park and municipal facilities. All future new construction, renovations, equipment replacements and repairs shall be reviewed for energy efficiency. Base line data will be reviewed when then city purchases, builds or acquires new facilities to properly report total reductions.

In addition to these actions, the City Council has adopted a City Ordinance which will require that the City will purchase only EPA designated Fuel Efficient Vehicles which is expected to further reduce the City's overall energy consumption.

RESULTS OF ENERGY USE BASELINE INVENTORY

Inventory Tool Used; The City of Springfield uses an internal Excel based program to track utility usage and cost. The City is also in the process of loading all facilities on the Environmental Protection Agency Energy Star Portfolio Manager and a representative has also been trained in the Massachusetts Department of Energy and Resources (MDOER) Mass Energy Insight utility tracking program.

Existing Municipal Energy Use:

The Chart below highlights the Energy Use for Municipally-owned Buildings:

	FY 2007 Actual	FY 2008 Actual	FY 2009 Actual
Municipally-owned Buildings:			
Heating Oil (gallons)	603,731	343,249	372,318
Natural Gas (therms)	2,087,992	2,166,188	2,108,526
Electricity (kWh)	37,172,940	36,650,331	36,459,291
Non-Exempt Vehicles:			
Gasoline (gallons)	120,323	163,501	150,763
Traffic and Street Lights (95% not Municipally-owned):			
Electricity (kWh)	10,584,865	10,137,864	9,104,772

² City vehicles used a cumulative 120,322 gallons of gasoline in the Fiscal Year 2007, and all facilities used a total of 603,731 gallons of fuel oil for heating and hot water, 2,087,992 therms of natural gas, 37,172,940 kWh of electricity and 10,584,865 kWh was used to power street lights.

Energy Use Forecast: the City is forecasting a reduction of 20% from its baseline energy use of 470,587 MBTU in 2007 to 369,060 MBTU by 2012.

Existing Efficiency Measures Implemented in last Two Years: Springfield has added 38 Energy Management Systems, 35 lighting retrofits 25 high efficiency boilers and many other energy conservation measures from March of 2007 to the present.

Areas of Least Efficiency/Greatest Waste: The City of Springfield's primary needs are in the replacement of inefficient boilers, the installation of Building Energy Management Systems, lighting retrofits and building envelope sealing.

Areas that can be Most Easily Addressed: Like other municipalities, the City of Springfield is faced with financial hardships and it must utilize all potential funding sources and internal resources to continue to reduce its carbon footprint.

SUMMARY OF ENERGY AUDIT

In 2006 The City of Springfield contracted with Siemens Building Technologies to complete building energy audits in all of the city-owned buildings as a first step to the completion of an Energy Savings Contractor project (ESCO). In 2007, the City of Springfield received bond proceeds for the project for \$15.1 million. The City of Springfield is one of the largest cities in the Commonwealth to undertake this complex energy savings initiative. The first phase included 28 school and municipal buildings for a total of 138 energy conservation measures including the installation of new energy efficient boilers, energy management systems, new lighting, pool covers, variable frequency drives, high efficiency motors and network controllers. It is estimated that upon the completion of Phase 1 the city will save over \$1.2 million a year in energy savings. Phase II of ESCO includes more than 20 plus buildings and is projected to increase the yearly costs savings.

The City of Springfield has also established a preventative maintenance team of management and tradesmen personnel to complete preventative maintenance (PM) in all facilities. Furthermore, when the PM is finished, the entire team completes a thorough energy audit of the facility. These recommended energy conservation measures identified in the audit will assist the City in capital planning and short-term General Fund spending. This Preventative Maintenance Team shall be managed through the Facilities Department.

SUMMARY OF FOSSIL FUEL REDUCTION MEASURES

Overview of Short and Long-term Goals: As shown above the City of Springfield has completed an Energy Audit of all facilities and has completed over 170 energy conservation measures from 2007 to present for a cost of over \$15.5 million dollars with another \$1.2 million planned for 2010. The City will continue to apply for all available grant opportunities and other funding sources to reach our goal of 20% reduction in green house gases.

Getting to 20 Percent: the City shall continue to audit and prioritize each facility based on usage and opportunity to implement energy conservation measures to reach our goal of 20% reduction. The city shall also continue to research and apply for all grant and funding opportunities. The City shall also review each capital investment, new building, renovation and/or equipment repair/replacement to ensure energy efficiency is a priority.

The City of Springfield shall use the EPA Energy Star Portfolio Manager and MassEnergyInsight assist in prioritizing which facility should be audited by the Preventative Maintenance Team.

The Program Management Plan shall be implemented, maintained, reviewed and revised by the Department of Parks, Building and Recreation Management Department Preventative Maintenance Team directed by Patrick J. Sullivan, Executive Director of Parks, Building and Recreation Management Department.

FOSSIL FUEL ENERGY REDUCTION MEASURES

Short-term Energy Reduction Goals – Getting to 20% Reduction in Five Years

As stated above, the following projects have been completed from March, 2007 to present are:

- ✓ ESCO Phase I (138 Energy Conservation Measures)
- ✓ 10 Energy Management Systems
- ✓ High Efficiency Boilers and Furnaces
- ✓ Variable Frequency Drives
- ✓ Lighting Retrofits
- ✓ High Efficiency Motor Installs
- ✓ Building Envelope
- ✓ Energy Management Controls for Exhaust Fans, Unit Ventilators and Air Handlers.

All new construction, additions and modifications are being reviewed for energy efficiency possibilities. One March 1, 2010, the City is adopted the stretch code, which put into place firm minimum energy standards for the building code. The intent was to reduce the City's energy demand and lower its greenhouse gas emissions.

The City of Springfield is projecting energy savings of 20% by 2012 with the understanding that all new facilities are added to the base line and the final usage. Current tracking is showing an estimated 10% reduction from 2007 to present.

The City has capital costs of over \$16.7 million in capital cost for energy efficient projects not including the new White Street Fire Station and Putnam High School.

Also taking place on March 1, 2010, the City Council adopted a policy that the City must purchase only fuel efficient vehicles, where commercially available and practicable, to meet its goal to reduce its fuel consumption and energy costs over the next ten years. This will happen by replacing vehicles as they become obsolete. Under normal circumstances the criteria used to determine which vehicles to replace includes repair cost, safety, years in service, and greatest need. Under this new plan non exempt vehicles will be replaced with fuel efficient vehicles using the same rubric. Under this policy any new vehicle purchased, not as a direct replacement of an existing vehicle, will be fuel efficient.

Street and traffic lighting: more than 95% of the street and/or traffic lighting within the City's borders are owned by Western Massachusetts Electric Company (WMECO). The City has been working with WMECO to retrofit all City owned street lights with the overall goal of reducing the energy consumption of the units.

Municipally-owned and Operated Clean Renewable or Alternative Energy Installations: the City of Springfield will be installing its first Hydronic solar installation this spring at the Indian Orchard Fire Station. Also the City has also applied to the Western Massachusetts Electric Company to provide roof space for photovoltaic solar panels on the municipal buildings. A monitoring and tracking system will be installed on the Hydronic solar system to monitor the BTU output of the system. The projected capital cost is \$50,000 for

the Hydronic Solar system. The WMECO is not known at this time. The Hydronic Solar system shall be completed by June of 2010. This shall be electronically tracked and reported.

Measurement and Verification Plan for Projected Reductions: measurement and verification shall be completed through multiple systems and tracking. The primary source for utility tracking and usage reductions will be completed by the Facilities Department through their internal Excel based program. The City shall also utilize the EPA Energy Star Portfolio Manager and DOER MassEnergyInsight program for verification of their internal numbers. Due to the increase and decrease of facilities the City shall also document the facilities brought on line or off line to clarify % of decreased usage. The Facilities Department shall be responsible to compile, reconcile, track and verify all utility usage and reduction of usage. The Facilities Department shall be responsible to provide all reporting on actual usage compared to projected usage.

Long--term Energy Reduction Goals – Beyond Five Years: the City of Springfield will continue to internally audit all of its facilities and implement energy conservation measures and retro-commission its facilities in order to continue to reduce their carbon footprint and maintain the efficiencies of their upgraded equipment. All repairs, replacements and new installations shall have the most efficient systems financially feasible.

- ✓ The City of Springfield adopted a policy to purchase and/or lease the most fuel efficient vehicles.
- ✓ The City of Springfield shall continue to work with the local utilities to implement a retrofit all City owned street lights. Over 95% are owned by the utility.
- ✓ The City of Springfield shall review all options for alternative energy production in the City-owned facilities.
- ✓ The City of Springfield shall continue to reduce its fossil fuel usage.

CONCLUSION

Springfield is committed to taking action to reduce energy use not only through energy efficiency and conservation measures, but also through transition to clean, safe, sustainable energy generation. Springfield is confident that it can achieve a 20% reduction in municipal energy use by 2012 by continuing to invest in energy reducing measures through its operating budget and through the use of alternative funds, like the Massachusetts Department of Energy Resources' Green Communities Grant.



City Of Springfield, Massachusetts

20% Energy Reduction Plan

PROJECTED SAVINGS

Completed Work	54,603.07	MMBTUs
Work In Progress	3243.15	MMBTUs
Future Work	37,885.08	MMBTUs
Street Lights	5,050.08	MMBTUs
Gasoline Reduction	746.00	MMBTUs

TOTAL PROJECTED SAVINGS 101,527.38 MMBTUs

TOTAL USAGE ON BASELINE FY07 470,587.49 MMBTUs

TOTAL % REDUCTION 21.57%

Completed Work

Item	Location	Description of Work	Project Cost	Est. Energy Savings (\$)	Est. Energy Savings by Unit	Unit Type	Est. Energy Savings (MMBTUs)
1.	New Ballet School	EMS		\$7,790	5,026	Therms	502.55
2.	Beal Elementary	Lighting & Sensors	\$62,267	\$5,048	25,240	kWh	86.12
3.	Beal Elementary	EMS	\$42,381	\$11,027	7,114	Therms	711.42
4.	Beal Elementary	Boilers	\$250,589	\$8,925	5,758	Therms	575.81
5.	Beal Elementary	Vending Misers	\$580	\$386	1,930	kWh	6.59
6.	Boland Elementary	Lighting & Sensors	\$144,640	\$12,594	62,970	kWh	214.85
7.	Boland Elementary	EMS	\$20,279	\$13,371	8,626	Therms	862.65
8.	Boland Elementary	Vending Misers	\$731	\$762	3,810	kWh	13.00
9.	Boland Elementary	Water Treatment		\$6,961	34,805	kWh	118.75
10.	Boland Elementary	Domestic HW System		\$3,397	2,192	Therms	219.16
11.	Bowles Elementary	EMS	\$46,139	\$19,396	12,514	Therms	1251.35
12.	Bowles Elementary	Boilers	\$265,119	\$12,583	8,118	Therms	811.81
13.	Bowles Elementary	Steam Traps	\$34,951	\$3,973	2,563	Therms	256.32
14.	Bowles Elementary	Radiator Valves	\$17,615	\$1,481	955	Therms	95.55
15.	Bowles Elementary	Vending Misers	\$580	\$448	2,240	kWh	7.64
16.	Bridge Academy Elementary	Lighting & Sensors	\$22,281	\$1,763	8,815	kWh	30.08
17.	Bridge Academy Elementary	EMS	\$18,505	\$5,477	3,534	Therms	353.35
18.	Bridge Academy Elementary	Boilers	\$243,424	\$8,990	5,800	Therms	580.00
19.	Bridge Academy Elementary	Motors & Drives	\$7,629	\$70	360	kWh	1.19
20.	Bridge Academy Elementary	Pipe Insulation	\$28,641	\$3,715	2,397	Therms	239.68
21.	Brightwood Elementary	Basic EMS	\$45,563	\$12,033	7,763	Therms	776.32
22.	Brightwood Elementary	Boilers	\$234,721	\$9,068	5,850	Therms	585.03
23.	Brightwood Elementary	Vending Misers	\$366	\$381	1,905	kWh	6.50
24.	Brookings Elementary	Basic EMS	\$24,257	\$9,206	5,939	Therms	593.94
25.	Brookings Elementary	Boilers	\$293,518	\$14,540	9,381	Therms	938.06
26.	Brookings Elementary	Steam Traps	\$54,339	\$2,105	1,358	Therms	135.81
27.	Brookings Elementary	Radiator Valves	\$38,634	\$1,510	974	Therms	97.42
28.	Brookings Elementary	Vending Misers	\$731	\$762	3,810	kWh	13.00
29.	Chestnut Accelerated School	Domestic HW System		\$3,301	2,130	Therms	212.97
30.	City Hall Complex	Lighting & Sensors	\$298,262	\$28,019	140,095	kWh	478.00
31.	City Hall Complex	Basic EMS	\$28,068	\$14,717	9,495	Therms	949.48
32.	City Hall Complex	Boilers	\$664,651	\$33,248	21,450	Therms	2145.03
33.	City Hall Complex	Steam Traps	\$30,879	\$1,192	769	Therms	76.90
34.	City Hall Complex	Radiator Valves	\$15,802	\$153	99	Therms	9.87
35.	City Hall Complex	Water Treatment	\$114,795	\$6,303	31,515	kWh	107.53
36.	City Hall Complex	Network Controller	\$8,934	\$4,455	22,275	kWh	76.00

Completed Work

Item	Location	Description of Work	Project Cost	Est. Energy Savings (\$)	Est. Energy Savings by Unit	Unit Type	Est. Energy Savings (MMBTUs)
37.	City Hall Complex	Vending Misers	\$1,463	\$1,524	7,620	kWh	26.00
38.	Deberry Elementary	Lighting & Sensors	\$56,789	\$4,160	20,800	kWh	70.97
39.	Deberry Elementary	Basic EMS	\$46,139	\$18,973	12,241	Therms	1224.06
40.	Deberry Elementary	Boilers	\$243,517	\$14,505	9,358	Therms	935.81
41.	Deberry Elementary	Steam Traps	\$31,857	\$2,887	1,863	Therms	186.26
42.	Deberry Elementary	Radiator Valves	\$13,801	\$4,809	3,103	Therms	310.26
43.	Deberry Elementary	Vending Misers	\$366	\$332	1,660	kWh	5.66
44.	DPBRM Office	Condensing Boiler		\$500	323	Therms	32.26
45.	DPBRM Conference Room	High Efficiency Furnace		\$200	129	Therms	12.90
46.	Dryden Elementary	Basic EMS	\$29,891	\$26,393	17,028	Therms	1702.77
47.	Dryden Elementary	Boilers	\$222,587	\$14,505	9,358	Therms	935.81
48.	Dryden Elementary	Steam Traps	\$18,903	\$3,064	1,977	Therms	197.68
49.	Dryden Elementary	Radiator Valves	\$7,800	\$1,521	981	Therms	98.13
50.	Dryden Elementary	Vending Misers	\$366	\$381	1,905	kWh	6.50
51.	Duggan Middle School	Basic EMS	\$52,138	\$13,857	8,940	Therms	894.00
52.	Duggan Middle School	Boilers	\$374,835	\$35,846	23,126	Therms	2312.65
53.	Duggan Middle School	Vending Misers	\$1,311	\$990	4,950	kWh	16.89
54.	Duggan Middle School	AHU Controls		\$1,163	5,815	kWh	19.84
55.	Duggan Middle School	Pool Cover	\$66,362	\$8,239	41,195	kWh	140.56
56.	East Springfield Library	Lighting & Sensors	\$4,984	\$456	2,280	kWh	7.78
57.	East Springfield Library	Steam Traps	\$3,205	\$235	152	Therms	15.16
58.	ECO	Boiler		\$600	387	Therms	38.71
59.	Elder Center	EMS		\$2,000	1,290	Therms	129.03
60.	Elder Center	Steam Traps		\$1,281	826	Therms	82.65
61.	Elder Center	Radiator Valves		\$1,000	645	Therms	64.52
62.	Ells Elementary	Basic EMS	\$42,381	\$11,320	7,303	Therms	730.32
63.	Ells Elementary	Boilers	\$280,966	\$8,806	5,681	Therms	568.13
64.	Ells Elementary	Vending Misers	\$366	\$337	1,685	kWh	5.75
65.	Fire HQ #1	Lighting & Sensors	\$36,829	\$3,688	18,440	kWh	62.92
66.	Fire HQ #1	Basic EMS	\$30,289	\$8,780	5,665	Therms	566.45
67.	Fire HQ #1	Boilers	\$203,283	\$4,675	3,016	Therms	301.61
68.	Fire HQ #1	Motors & Drives	\$4,030	\$230	1,150	kWh	3.92
69.	Fire HQ #1	Vending Misers	\$946	\$470	2,350	kWh	8.02
70.	Freedman Elementary	EMS		\$7,977	5,146	Therms	514.62
71.	Glickman Elementary	Basic EMS	\$46,139	\$6,129	3,954	Therms	395.42
72.	Glickman Elementary	Boilers	\$309,495	\$6,310	4,071	Therms	407.10

Completed Work

Item	Location	Description of Work	Project Cost	Est. Energy Savings (\$)	Est. Energy Savings by Unit	Unit Type	Est. Energy Savings (MMBTUs)
73.	Glickman Elementary	Steam Traps	\$33,197	\$6,742	4,350	Therms	434.97
74.	Glickman Elementary	Radiator Valves	\$10,817	\$4,370	2,819	Therms	281.94
75.	Glickman Elementary	Vending Misers	\$580	\$431	2,155	kWh	7.35
76.	Harris Elementary	Advanced EMS	\$20,442	\$9,001	5,807	Therms	580.71
77.	Harris Elementary	Vending Misers	\$580	\$448	2,240	kWh	7.64
78.	Indian Orchard Elementary	Advanced EMS	\$168,032	\$1,500	968	Therms	96.77
79.	Indian Orchard Elementary	VFDs		\$11,325	56,626	kWh	193.21
80.	Kennedy Middle School	EMS		\$8,462	5,460	Therms	545.97
81.	Kiley Middle School	Lighting & Sensors	\$201,682	\$13,649	68,245	kWh	232.85
82.	Kiley Middle School	Basic EMS	\$50,129	\$33,896	21,868	Therms	2186.84
83.	Kiley Middle School	Boilers	\$400,527	\$20,676	13,339	Therms	1333.94
84.	Kiley Middle School	Vending Misers	\$1,829	\$1,683	8,415	kWh	28.71
85.	Kiley Middle School	Pool Cover	\$68,060	\$11,905	59,525	kWh	203.10
86.	Liberty Library	Steam Traps	\$4,297	\$540	348	Therms	34.84
87.	Liberty Library	Radiator Valves	\$1,392	\$157	101	Therms	10.13
88.	Liberty Library	Attic Insulation	\$11,874	\$295	190	Therms	19.03
89.	Lincoln Elementary	Lighting & Sensors	\$37,409	\$2,214	11,070	kWh	37.77
90.	Lincoln Elementary	Basic EMS	\$27,658	\$18,298	11,805	Therms	1180.52
91.	Lincoln Elementary	Boilers	\$198,706	\$13,030	8,406	Therms	840.65
92.	Lincoln Elementary	Vending Misers	\$580	\$386	1,930	kWh	6.59
93.	Lynch Elementary	EMS		\$7,962	5,137	Therms	513.68
94.	Municipal Operations Center	Lighting & Sensors	\$114,407	\$8,371	41,855	kWh	142.81
95.	Municipal Operations Center	Basic EMS	\$18,952	\$4,558	2,941	Therms	294.06
96.	Municipal Operations Center	Network Controller	\$4,467	\$2,228	11,140	kWh	38.01
97.	Municipal Operations Center	Vending Misers	\$1,160	\$861	4,305	kWh	14.69
98.	Pottenger Elementary	Basic EMS	\$51,969	\$5,471	3,530	Therms	352.97
99.	Pottenger Elementary	Boilers	\$517,388	\$5,768	3,721	Therms	372.13
100.	Pottenger Elementary	Vending Misers	\$366	\$302	1,510	kWh	5.15
101.	Police HQ	Lighting & Sensors	\$105,038	\$8,428	42,140	kWh	143.78
102.	Police HQ	Boilers	\$492,027	\$28,704	18,519	Therms	1851.87
103.	Police HQ	Advanced EMS, VAV's, Piping	\$849,284	\$88,595	57,158	Therms	5715.81
104.	Police HQ	Network Controller	\$5,076	\$2,532	12,660	kWh	43.20
105.	Police HQ	Vending Misers	\$1,311	\$1,104	5,520	kWh	18.83
106.	Police HQ	Chiller	\$237,497	\$13,104	65,520	kWh	223.55
107.	Sumner Elementary	Lighting & Sensors	\$172,594	\$13,631	68,155	kWh	232.54
108.	Sumner Elementary	Advanced EMS	\$125,480	\$8,960	5,781	Therms	578.06

Completed Work

Item	Location	Description of Work	Project Cost	Est. Energy Savings (\$)	Est. Energy Savings by Unit	Unit Type	Est. Energy Savings (MMBTUs)
109.	Sumner Elementary	Vending Misers	\$626	\$386	1,930	kWh	6.59
110.	Sumner Elementary	VFDs		\$8,015	40,075	kWh	136.74
111.	Van Sickle Elementary	Advanced EMS	\$35,558	\$2,000	1,290	Therms	129.03
112.	Warner Elementary	Basic EMS	\$57,468	\$3,893	2,512	Therms	251.16
113.	Warner Elementary	Boilers	\$357,908	\$4,840	3,123	Therms	312.26
114.	Warner Elementary	Steam Traps	\$21,275	\$3,200	2,065	Therms	206.45
115.	Warner Elementary	Radiator Valves	\$15,728	\$1,450	935	Therms	93.55
116.	Warner Elementary	Vending Misers	\$580	\$431	2,155	kWh	7.35
117.	Walsh Elementary	Basic EMS	\$34,911	\$12,408	8,005	Therms	800.52
118.	Walsh Elementary	Boilers	\$266,502	\$11,844	7,641	Therms	764.13
119.	Walsh Elementary	Steam Traps	\$36,310	\$7,610	4,910	Therms	490.97
120.	Walsh Elementary	Radiator Valves	\$3,664	\$735	474	Therms	47.42
121.	Walsh Elementary	Vending Misers	\$366	\$381	1,905	kWh	6.50
122.	Washington Elementary	Lighting & Sensors	\$82,442	\$4,574	22,870	kWh	78.03
123.	Washington Elementary	Basic EMS	\$28,613	\$9,394	6,061	Therms	606.06
124.	Washington Elementary	Boilers	\$200,165	\$16,399	10,580	Therms	1058.00
125.	Washington Elementary	Radiator Valves	\$13,084	\$3,230	2,084	Therms	208.39
126.	Washington Elementary	Pipe Insulation	\$24,823	\$5,711	3,685	Therms	368.45
127.	Washington Elementary	Vending Misers	\$366	\$302	1,510	kWh	5.15
128.	White Street Elementary	Lighting & Sensors	\$64,947	\$4,222	21,110	kWh	72.03
129.	White Street Elementary	Basic EMS	\$28,558	\$11,896	7,675	Therms	767.48
130.	White Street Elementary	Boilers	\$253,092	\$11,473	7,402	Therms	740.19
131.	White Street Elementary	Pipe Insulation	\$19,842	\$1,326	855	Therms	85.55
132.	White Street Elementary	Vending Misers	\$366	\$673	3,365	kWh	11.48
133.	Zanetti Elementary	Lighting & Sensors	\$41,125	\$2,685	13,425	kWh	45.81
134.	Zanetti Elementary	Basic EMS	\$45,563	\$10,418	6,721	Therms	672.13
135.	Zanetti Elementary	Boilers	\$293,519	\$8,582	5,537	Therms	553.68
136.	Zanetti Elementary	Pipe Insulation	\$7,548	\$1,486	959	Therms	95.87
137.	Zanetti Elementary	Vending Misers	\$580	\$386	1,930	kWh	6.59

TOTAL MMBTUs 54,603.07

Work In Progress

Item	Location	Description of Work	Project Projected Cost	Est. Energy Savings (\$)	Est. Energy Savings by Unit	Unit Type	Est. Energy Savings (MMBTUs)
1.	Beal Elementary School	Lighting & Sensors	\$12,185	\$4,271.95	22,943	kWh	78.28
2.	Bowles Elementary School	Lighting & Sensors	\$6,742	\$1,801.70	9273	kWh	31.64
3.	Brightwood Elementary School	Lighting & Sensors	\$34,002	\$14,938.79	81101	kWh	276.72
4.	Brookings Elementary School	Lighting & Sensors	\$30,150	\$7,057.59	39,252	kWh	133.93
5.	Brunton Elementary School	Lighting & Sensors	\$10,341	\$3,319.27	18721	kWh	63.88
6.	Dorman Elementary School	Lighting & Sensors	\$16,920	\$3,752.18	20,939	kWh	71.44
7.	Duggan Middle School	Lighting & Sensors	\$27,580	\$6,588.39	38,939	kWh	132.86
8.	Fire Alarm Building	EMS	\$32,000	\$1,800.00	1,161	Therms	116.13
9.	Fire Alarm Building	Boiler	\$76,500	\$2,500.00	1,613	Therms	161.29
10.	First Church	EMS	\$40,335	\$2,560.00	1,652	Therms	165.16
11.	First Church	Boiler	\$240,900	\$1,500.00	968	Therms	96.77
12.	Forest Park Main	Lighting & Sensors	\$12,283	\$6,075.03	32,644	kWh	111.38
13.	Glenwood Elementary School	Lighting & Sensors	\$5,750	\$2,054.60	11252	kWh	38.39
14.	Indian Orchard Elementary School	Lighting & Sensors	\$41,522	\$13,366.06	70,274	kWh	239.77
15.	Indian Orchard Fire Station #5	Boiler	\$55,571	\$3,955.00	2,552	Therms	255.16
16.	Indian Orchard Fire Station #5	Solar Panels	\$36,093	\$650.00	419	Therms	41.94
17.	Kennedy Middle School	Lighting & Sensors	\$18,090	\$4,916.69	28719	kWh	97.99
18.	Kensington Elementary School	Lighting & Sensors	\$19,889	\$4,556.10	23,570	kWh	80.42
19.	Liberty Elementary School	Lighting & Sensors	\$3,196	\$1,429.70	8096	kWh	27.62
20.	Mary Lynch Elementary School	Lighting & Sensors	\$6,046	\$2,206.09	10166	kWh	34.69
21.	Mary Walsh Elementary School	Lighting & Sensors	\$12,981	\$3,233.26	16675	kWh	56.90
22.	Parks DEPT	Lighting & Sensors	\$17,720	\$6,172.76	34,331	kWh	117.14
23.	Pottenger Elementary School	Lighting & Sensors	\$8,173	\$2,845.63	15687	kWh	53.52
24.	Sixteen Acres Fire Station #12	Boiler	\$59,500	\$1,020.00	658	Therms	65.81
25.	South End Community Center	EMS	\$43,291	\$4,500.00	2,903	Therms	290.32
26.	South End Community Center	Boiler	\$295,000	\$2,400.00	1,548	Therms	154.84
27.	Talmadge Elementary School	Lighting & Sensors	\$6,329	\$1,757.37	9,077	kWh	30.97
28.	Warner Elementary School	Lighting & Sensors	\$5,564	\$1,182.42	6,749	kWh	23.03
29.	New Zanetti Elementary School	Lighting & Sensors	\$17,032	\$3,767.43	21,382	kWh	72.96
30.	White Street Fire Station	Lighting & Sensors		\$5,811.60	29,058	kWh	99.15
31.	White Street Fire Station	Chiller		\$501.60	2,508	kWh	8.56
32.	White Street Fire Station	ERU		\$850.20	4,251	kWh	14.50

TOTAL MMBTUS 3,243.15

Future Work

Item	Location	Description of Work	Est. Project Cost (\$)	Est. Energy Savings (\$)	Est. Energy Savings by Unit	Unit Type	Est. Energy Savings (MMBTUs)
1.	Alice Beal Elementary	Advance EMS	\$69,000	\$4,500	2,903	Therms	290.32
2.	Brunton Elementary	Advanced EMS	\$251,747	\$9,500	6,129	Therms	612.90
3.	Brunton Elementary	Boilers	\$488,310	\$15,000	9,677	Therms	967.74
4.	Brunton Elementary	Vending Miser	\$462	\$381	1,907	kWh	6.51
5.	Central High School	Steam Traps	\$83,936	\$4,162	2,685	Therms	268.49
6.	Central High School	Motors & Drives	\$202,203	\$34,513	172,563	kWh	588.78
7.	Central High School	Vending Miser	\$1,850	\$1,228	6,141	kWh	20.95
8.	Central High School	Pool Cover	\$80,600	\$10,825	6,984	Therms	698.37
9.	Chestnut Accelerated School	Basic EMS	\$314,631	\$36,000	23,226	Therms	2,322.58
10.	Chestnut Accelerated School	Motors & Drives	\$57,350	\$33,595	167,976	kWh	573.14
11.	Chestnut Accelerated School	Vending Miser	\$1,850	\$1,043	5,215	kWh	17.79
12.	Chestnut Accelerated School	Pool Cover	\$80,989	\$25,053	16,164	Therms	1,616.35
13.	Chestnut Accelerated School	Chiller VFD	\$138,750	\$22,053	110,267	kWh	376.23
14.	Commerce High School	Domestic HW System	\$120,000	\$6,500	4,194	Therms	419.35
15.	Commerce High School	Basic EMS	\$83,409	\$31,823	20,531	Therms	2,053.09
16.	Commerce High School	Steam Traps	\$68,887	\$6,850	4,419	Therms	441.94
17.	Commerce High School	Motors & Drives	\$7,215	\$10,329	51,644	kWh	176.21
18.	Commerce High School	Vending Miser	\$2,405	\$1,792	8,958	kWh	30.57
19.	Dorman Elementary	Advanced EMS	\$243,927	\$5,500	3,548	Therms	354.84
20.	Dorman Elementary	Steam Traps	\$27,718	\$5,800	3,742	Therms	374.19
21.	Dorman Elementary	Radiator Valves	\$27,632	\$2,000	1,290	Therms	129.03
22.	Dorman Elementary	Vending Miser	\$463	\$403	2,013	kWh	6.87
23.	DPBRM	Advanced EMS	\$274,551	\$4,500	2,903	Therms	290.32
24.	DPBRM	Boilers	\$333,210	\$4,800	3,097	Therms	309.68
25.	DPBRM	Vending Miser	\$740	\$428	2,139	kWh	7.30
26.	Fire Repair Building	Boilers	\$202,698	\$3,000	1,935	Therms	193.55
27.	Fire Repair Building	Vending Miser	\$925	\$805	4,026	kWh	13.74
28.	Forest Park Library	Boilers	\$147,597	\$533	344	Therms	34.38
29.	Forest Park Middle School	Boilers	\$210,000	\$12,000	7,742	Therms	774.19
30.	Freedman Elementary	Boilers	\$430,981	\$9,500	6,129	Therms	612.90
31.	Freedman Elementary	Vending Miser	\$740	\$488	2,442	kWh	8.33
32.	Freedman Elementary	Lighting Retrofit	\$740	\$3,200	16,000	kWh	54.59
33.	Gerena Community School	Boilers	\$480,000	\$15,000	9,677	Therms	967.74
34.	Gerena Community School	Domestic HW System	\$120,000	\$9,550	6,161	Therms	616.13
35.	Gerena Community School	Motors & Drives	\$80,600	\$40,000	200,000	kWh	682.40
36.	Gerena Community School	Lighting Retrofit	\$120,000	\$15,000	75,000	kWh	255.90

Future Work

Item	Location	Description of Work	Est. Project Cost (\$)	Est. Energy Savings (\$)	Est. Energy Savings by Unit	Unit Type	Est. Energy Savings (MMBTUS)
37.	Gerena Community School	Vending Miser	\$1,202	\$783	3,914	kWh	13.35
38.	Gerena Community School	Pool Cover	\$80,600	\$3,752	2,420	Therms	242.04
39.	Glenwood Elementary	Advanced EMS	\$294,857	\$6,000	3,871	Therms	387.10
40.	Glenwood Elementary	Boilers	\$468,207	\$5,500	3,548	Therms	354.84
41.	Glenwood Elementary	Steam Traps	\$34,344	\$2,200	1,419	Therms	141.94
42.	Glenwood Elementary	Radiator Valves	\$34,448	\$1,200	774	Therms	77.42
43.	Glenwood Elementary	Vending Miser	\$740	\$488	2,442	kWh	8.33
44.	High School of Science & Technology	Advanced EMS	\$75,000	\$35,000	22,581	Therms	2,258.06
45.	High School of Science & Technology	Motors & Drives	\$50,000	\$25,000	125,000	kWh	426.50
46.	High School of Science & Technology	Lighting & Sensors	\$180,000	\$45,000	225,000	kWh	767.70
47.	High School of Science & Technology	Steam Traps	\$59,867	\$5,875	3,790	Therms	379.00
48.	High School of Science & Technology	Radiator Valves	\$3,907	\$1,260	813	Therms	81.27
49.	Homer Elementary	Advanced EMS	\$198,741	\$8,500	5,484	Therms	548.39
50.	Homer Elementary	Boilers	\$617,895	\$5,800	3,742	Therms	374.19
51.	Homer Elementary	Steam Traps	\$43,802	\$2,400	1,548	Therms	154.84
52.	Homer Elementary	Radiator Valves	\$46,924	\$1,800	1,161	Therms	116.13
53.	Homer Elementary	Lighting Retrofit	\$740	\$3,950	19,750	kWh	67.39
54.	Homer Elementary	Vending Miser	\$740	\$488	2,442	kWh	8.33
55.	Indian Orchard Fire Station #5	HVAC Upgrade	\$463	\$1,000	5,000	kWh	17.06
56.	Indian Orchard Fire Station #5	Vending Miser	\$463	\$403	2,013	kWh	6.87
57.	Indian Orchard Library	Basic EMS	\$15,000	\$2,400	1,548	Therms	154.84
58.	Kennedy Middle School	Advanced EMS	\$645,451	\$8,500	5,484	Therms	548.39
59.	Kennedy Middle School	Boilers	\$630,969	\$15,000	9,677	Therms	967.74
60.	Kennedy Middle School	Motors & Drives	\$4,810	\$697	3,484	kWh	11.89
61.	Kennedy Middle School	Vending Miser	\$2,775	\$2,288	11,442	kWh	39.04
62.	Kensington Elementary	Advanced EMS	\$72,280	\$5,200	3,355	Therms	335.48
63.	Kensington Elementary	Boilers	\$433,752	\$4,500	2,903	Therms	290.32
64.	Kensington Elementary	Steam Traps	\$46,071	\$2,460	1,587	Therms	158.71
65.	Kensington Elementary	Vending Miser	\$463	\$403	2,013	kWh	6.87
66.	Kiley Middle School	Advanced EMS	\$200,000	\$6,800	4,387	Therms	438.71
67.	Liberty Elementary	Advanced EMS	\$259,451	\$6,500	4,194	Therms	419.35
68.	Liberty Elementary	Boilers	\$537,494	\$5,620	3,626	Therms	362.58
69.	Liberty Elementary	Steam Traps	\$36,447	\$2,800	1,806	Therms	180.65
70.	Liberty Elementary	Radiator Valves	\$27,561	\$1,500	968	Therms	96.77
71.	Mary Lynch Elementary	Advanced EMS	\$358,684	\$5,066	3,268	Therms	326.83
72.	Mary Lynch Elementary	Boilers	\$454,100	\$8,000	5,161	Therms	516.13

Future Work

Item	Location	Description of Work	Est. Project Cost (\$)	Est. Energy Savings (\$)	Est. Energy Savings by Unit	Unit Type	Est. Energy Savings (MMBTUs)
73.	Mary Lynch Elementary	Motors & Drives	\$3,330	\$2,847	14,234	kWh	48.57
74.	Mary Lynch Elementary	Vending Miser	\$740	\$488	2,442	kWh	8.33
75.	Mason Square Library	Advance EMS	\$42,000	\$3,500	2,258	Therms	225.81
76.	Mason Square Library	Boilers	\$78,000	\$3,000	1,935	Therms	193.55
77.	Milton Bradley Elementary	Motors & Drives	\$317,127	\$9,161	45,807	kWh	156.29
78.	Milton Bradley Elementary	Vending Miser	\$1,202	\$806	4,031	kWh	13.75
79.	Milton Bradley Elementary	Pool Cover	\$80,989	\$8,500	5,484	Therms	548.39
80.	Milton Bradley Elementary	Lighting Retrofit	\$45,000	\$6,200	31,000	kWh	105.77
81.	New Zanetti Elementary	Boilers	\$280,000	\$9,500	6,129	Therms	612.90
82.	New Zanetti Elementary	Advanced EMS	\$150,000	\$7,500	4,839	Therms	483.87
83.	New Zanetti Elementary	Advanced EMS	\$18,000	\$4,500	22,500	kWh	76.77
84.	North Main Street Fire Station #10	Boilers	\$124,764	\$2,042	1,317	Therms	131.71
85.	Old Balliet Elementary	Advanced EMS	\$117,835	\$8,779	5,664	Therms	566.39
86.	Old Balliet Elementary	Steam Traps	\$24,806	\$2,237	1,443	Therms	144.29
87.	Old Balliet Elementary	Radiator Valves	\$20,102	\$1,761	1,136	Therms	113.58
88.	Old Balliet Elementary	Lighting Retrofit	\$462	\$3,500	17,500	kWh	59.71
89.	Old Balliet Elementary	Vending Miser	\$462	\$432	2,158	kWh	7.36
90.	Pine Point Branch	Basic EMS	\$15,000	\$3,500	2,258	Therms	225.81
91.	Pine Point Branch	Motors & Drives	\$3,145	\$428	2,139	kWh	7.30
92.	Rebecca Johnston Elementary	Vending Miser	\$1,388	\$1,030	5,149	kWh	17.57
93.	Rebecca Johnston Elementary	Pool Cover	\$77,640	\$15,930	10,278	Therms	1,027.77
94.	Sixteen Acres Library	Base EMS	\$15,000	\$1,500	968	Therms	96.77
95.	Sixteen Acres Library	Basic EMS	\$20,000	\$2,500	12,500	kWh	42.65
96.	Springfield Academy- Berkshire Campus	Advanced EMS	\$250,009	\$8,645	5,577	Therms	557.74
97.	Talmadge Elementary	Advanced EMS	\$140,211	\$6,500	4,194	Therms	419.35
98.	Talmadge Elementary	Boilers	\$517,288	\$8,000	5,161	Therms	516.13
99.	Talmadge Elementary	Motors & Drives	\$3,330	\$4,258	21,288	kWh	72.64
100.	Talmadge Elementary	Vending Miser	\$740	\$507	2,537	kWh	8.66
101.	Thomas J O'Connor	Advanced EMS	\$48,000	\$9,500	6,129	Therms	612.90
102.	Van Sickle Junior High School	Vending Miser	\$2,683	\$1,846	9,232	kWh	31.50
103.	Van Sickle Junior High School	Motors & Drives	\$2,683	\$23,000	115,000	kWh	392.38
104.	Van Sickle Junior High School	Pool Cover	\$79,731	\$29,549	19,064	Therms	1,906.40

TOTAL MMBTUS	37,885.08
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NG Accounts

Table with columns: Sq Ft, Building Name, FY 07 (NG Therms, HO Gallons, Total Therms), FY 08 (HO Gallons, NG Therms, Total Therms), FY 09 (HO Gallons, NG Therms, Total Therms), FY 10 (Total Therms), FY 11 (Total Therms). Rows include accounts like 150.564 Rebecca Johnson Elementary School and 1.531 FP Main Floor (Executive Directors office).

Non-Natural Gas Heating Fuel Oil Accounts

Table with columns: Sq Ft, Building Name, FY 07 (NG Therms, HO Gallons, Total Therms), FY 08 (HO Gallons, NG Therms, Total Therms), FY 09 (HO Gallons, NG Therms, Total Therms), FY 10 (Total Therms), FY 11 (Total Therms). Rows include accounts like ECOS Power Lake Skate House and 2.087,992 O'Neal High School.

Summary table for NG Accounts with columns: FY 07 Total Therms, FY 08 Total Therms, FY 09 Total Therms, FY 10 Total Therms, FY 11 Total Therms. Totals: 2,087,992; 2,925,367; 2,108,526; 2,642,274; 2,624,931.

Summary table for Non-Natural Gas Heating Fuel Oil Accounts with columns: FY 07 Total Therms, FY 08 Total Therms, FY 09 Total Therms, FY 10 Total Therms, FY 11 Total Therms. Totals: 2,087,992; 2,166,183; 2,108,526; 2,642,274; 2,624,931.

Facilities That Have Been Closed or Sold

Sq Ft	Building Name	FY 07			FY 08			FY 09			FY 07		FY 08		FY 09	
		NG Therms	HO Gallons	HO x 1,387 = Therms	Total Therms	NG Therms	HO Gallons	HO x 1,387 = Therms	Total Therms	NG Therms	HO Gallons	HO x 1,387 = Therms	Total Therms	Total Therms	Total Therms	Total Therms
2,976	Pace Boulevard Fire Station #15	36	700	971	1,007	37	0	0	37	37	0	0	1,007	37	37	
3,560	Summer Avenue Fire Station #14	0	1,550	2,677	2,677	1	608	843	844	0	0	0	2,677	844	0	
	York Street Shelter	7,071	0	0	7,071	457	0	457	457	0	0	0	7,071	457	0	
	Audio Visual Dept.	5,011	0	0	5,011	2,176	0	2,176	2,176	0	0	0	5,011	2,176	0	
67,182	Zarnett Elementary School	23,848	14,001	19,419	43,267	30,108	0	30,103	22,640	0	0	0	43,257	30,108	22,640	
	Chestnut School - 1 of 2 Heated But Closed	79	0	0	79	0	0	0	0	0	0	0	79	0	0	
	Chestnut School - 2 of 2 Heated But Closed	238	0	0	238	0	0	0	0	0	0	0	238	0	0	
		36,283	16,631	23,067	59,350	32,779	608	843	33,622	22,577	0	0	59,350	33,622	22,577	

Facilities That Have Been Purchased, Added or Reopened After

Sq Ft	Building Name	FY 07			FY 08			FY 09			FY 07		FY 08		FY 09	
		NG Therms	HO Gallons	HO x 1,387 = Therms	Total Therms	NG Therms	HO Gallons	HO x 1,387 = Therms	Total Therms	NG Therms	HO Gallons	HO x 1,387 = Therms	Total Therms	Total Therms	Total Therms	Total Therms
17,000	Thomas J O'Connor Armory Central Center	45,513	0	0	45,513	45,211	0	45,211	45,211	42,747	0	0	45,513	42,747	42,747	
18,000	Safe School OJH Convient School - Boland Elem Annex	5,504	0	0	5,504	9,313	0	9,313	9,313	8,615	0	0	5,504	9,313	8,615	
14,555	Mason Square Library	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Massaco Street Fire Station	0	1,838	2,549	2,549	0	5,814	8,064	8,064	0	3,432	4,760	2,549	8,064	4,760	
10,000	Rosewell Elementary OJSH School	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Greenleaf Community Center	0	0	0	0	2,450	0	2,450	2,450	2,937	0	0	0	2,450	2,937	
	Camp SECO Lodge Forest Park	0	0	0	0	0	1,153	1,599	1,599	0	815	1,130	0	1,599	1,130	
	Zarathi Montessori OJH School	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
64,088	Old First Church Elm Street or Court Square	0	0	0	0	935	0	935	935	20,986	0	0	0	935	20,986	
		52,019	1,838	2,549	54,568	57,979	6,967	9,663	67,582	75,285	4,247	5,891	54,568	67,582	81,176	

Facilities Which Utilities Have Been Paid by Vendor

Sq Ft	Building Name	FY 07			FY 08			FY 09			FY 07		FY 08		FY 09	
		NG Therms	HO Gallons	HO x 1,387 = Therms	Total Therms	NG Therms	HO Gallons	HO x 1,387 = Therms	Total Therms	NG Therms	HO Gallons	HO x 1,387 = Therms	Total Therms	Total Therms	Total Therms	Total Therms
16,500	Csv Tow Yard	203	0	0	203	2,022	0	2,022	2,022	4,808	0	0	203	2,022	4,808	
22,500	FP CYS	19,439	0	0	19,439	15,295	0	15,295	15,295	13,309	0	0	19,439	15,295	13,309	
		19,642	0	0	19,642	17,317	0	17,317	17,317	18,117	0	0	19,642	17,317	18,117	

FY 07			FY 08			FY 09			FY 07		FY 08		FY 09	
NG Therms	HO Gallons	HO x 1,387 = Therms	Total Therms	NG Therms	HO Gallons	HO x 1,387 = Therms	Total Therms	NG Therms	HO Gallons	HO x 1,387 = Therms	Total Therms	Total Therms	Total Therms	Total Therms
2,195,936	622,200	862,991	3,058,927	2,274,203	350,824	488,593	2,760,796	2,224,605	376,565	522,296	2,746,901	3,058,927	2,760,796	2,746,901

CITY OF SPRINGFIELD, MASSACHUSETTS
Electricity Consumption

Sq Ft	Building Name	FY 07 Total kWh	FY 08 Total kWh	FY 09 Total kWh
115,239	City Hall 54 Court St. Symphony Hall	1,236,000	1,170,000	1,172,400
1,050	City Hall - Campanile -	2,564	2,572	2,185
17,373	City Hall - Healing Plant - City Hall Annex, Snr Cntr	459,440	466,962	462,800
10,142	City Hall - Grand Army Hall GAR	5,833	7,560	6,339
67,470	South End Community Center	80,000	92,640	96,440
39,345	Facility Div & Warehouse	161,400	155,400	132,360
234,990	O'Neal 2 Municipal Operations Center	1,395,918	1,284,729	1,279,603
37,000	O'Neal Public Works/Tapley Street Garage	186	400	427
15,000	Tourist Information Center	94,275	96,145	78,982
8,200	East 1 Forest Park Branch	23,172	24,247	20,361
3,315	East 2 Forest Park Branch rented couple of store fronts in Brooks Shopping Plaza	16,176	11,673	16,540
1,372	East Springfield Branch see building 0203	14,551	13,957	15,408
9,406	Forest Park Library	34,737	28,528	32,542
5,066	Liberty Branch	48,427	48,062	45,135
9,720	Pine 1 Point Branch - Read Write Now Literacy Center	13,836	13,869	17,110
11,131	Pine 2 Point Branch - Read Write Now Literacy Center	7,871	7,894	6,920
86,900	Sixteen Acres	182,800	178,400	146,240
56,220	Police Station	158,640	153,547	156,290
130,441	School Central Office and Health & Human Svcs	1,263,198	1,072,650	968,179
23,114	Boland 1, Edward P Elementary School, Amory St. Elem.	319,977	302,361	309,066
31,389	Boland 2, Edward P Elementary School, Amory St. Elem.	10,74,028	999,168	907,592
52,494	Bailet Elementary School	84,597	95,224	93,628
24,300	Beal 1, Alice B. Elementary School	173,932	146,909	146,305
55,473	Beal 2, Alice B. Elementary School	102,280	104,600	103,600
59,769	Bowles Elementary School	194,960	203,899	204,062
53,812	Bridge Academy, Eastern Avenue Campus	82,478	70,772	83,958
274,000	Brightwood Elementary School	212,266	213,205	205,085
48,803	Brookings Elementary School	226,314	238,354	227,153
34,309	Brunton Elementary School 1781 Parker St	394,977	417,535	444,701
153,420	Central 1 High School	2,390,400	2,424,960	2,268,000
40,641	Central 2 High School	13,735	13,775	14,145
141,355	Commerces High School	2,191,680	2,181,600	2,085,120
47,365	Deberry Elementary School	231,584	220,801	190,812
38,637	Dorman Elementary School	120,855	134,092	135,852
44,460	Duggan Middle School, John J. Jr. high	487,423	561,881	581,827
89,839	ELLS, Margaret Elementary School	243,821	240,185	234,053
55,497	Forest Park Middle School	334,910	377,226	371,498
88,600	Freedman Elementary School	238,135	248,123	243,715
114,434	Glenwood Elementary School	80,165	107,935	119,705
49,406	Glickman 1 Elem - Sabis	182,400	189,120	192,960
169,500	Glickman 2 Elem - Sabis	15,535	13,039	12,407
	Harris Elementary School	772,656	838,214	788,909
	Homer 1 Elementary School	137,423	127,228	127,671
	Homer 2 Elementary School	180	180	180
	Indian Orchard Elementary School	659,589	690,585	669,769
	Kennedy Middle School	529,477	519,423	539,579
	Kensington Elementary School	207,433	192,926	197,968
	Kiley Middle School	814,560	663,120	872,400

Sq Ft	Building Name	FY 07			FY 08			FY 09		
		Total kWh	Total kWh	Total kWh	Total kWh	Total kWh	Total kWh	Total kWh	Total kWh	Total kWh
31,899	Liberty Elementary School	129,763	130,500	132,415						
39,606	Lincoln Elementary School	205,226	202,111	203,640						
36,669	Mary, 1 Lynch Elementary School	176,275	167,481	168,748						
38,850	Mary, 2 Lynch Elementary School Modular	73,880	68,080	77,120						
228,921	Dryden Memorial Elementary School	232,563	147,981	121,875						
42,694	Gerena Community School	2,246,588	2,333,079	2,507,578						
384,472	Pottenger Elementary School	203,483	207,514	215,152						
44,342	Punam Voc & Tech High School 1320 State	2,017,327	1,930,208	1,876,817						
88,700	Mary, 1 Walsh Elementary School	198,321	199,818	195,280						
37,055	Summer Ave Elementary School	689,760	655,920	599,760						
209,423	Summer Elementary School Office next door.	19,187	17,178	16,017						
56,000	Talmadge Elementary School	205,551	210,814	212,662						
69,997	Van Sickle Middle + Renaissance Schools	2,274,300	2,272,200	2,310,000						
46,853	Warner Elementary School	147,573	173,090	174,366						
113,028	Washington Elementary School	132,840	114,640	105,400						
150,554	White Street Elem School + floodlights	107,592	154,296	143,562						
273,146	Milton Bradley School, 111 Maple St	1,272,240	1,214,640	1,188,720						
203,000	Rebecca Johnson Elementary School	1,295,280	1,278,000	1,285,760						
37,000	H.S. Of Science & Technology - Main Bldg. - Sci Tech Bldg# 0543, 0544, 0545, 0546	3,269,000	2,965,200	3,370,500						
78,000	Chestnut 1 Accelerated Middle School (CAMS)	2,149,200	2,430,720	2,106,000						
66,950	Chestnut 2 Accelerated Middle School (CAMS)	13,341	13,750	2,930						
67,261	Sprf Academy, Berkshire Campus (6-12)	131,256	149,587	133,932						
6,650	Fire Headquarters #1	244,800	225,280	236,000						
9,080	Fire Alarm Building + Fire Repair bldg# 0603.	115,840	104,960	93,460						
17,600	Fire Training Center	29,320	32,520	33,280						
9,075	School Garage @ former Indian Orchard Fire Station	6,001	5,006	5,032						
5,187	Indian Orchard Fire Station #5	59,945	59,377	58,666						
3,960	Mason Square Fire Station #8	96,280	122,480	117,480						
25,000	North Main Street Fire Station #10	61,272	60,035	98,870						
20,750	Oakland Street Fire Station #3	47,580	51,781	50,251						
14,500	Sixteen Acres Fire Station #12	3,440	3,360	1,684						
2,532	Summer Avenue Fire Station #14	7,733	5,721	1,758						
2,241	Raymond M. Sullivan Safety Complex #9	298,080	317,760	316,160						
23,500	0706.	150,440	169,760	157,600						
7,600	FP, Walker Grandstand	20,000	24,000	21,240						
1,800	FP, BN added to Rec Div Bldg. (by Shuffle Board court)	20,808	20,167	19,145						
3,900	FP, Carriage House, Longhill St @ 455, Bamey, 1 Carriage House	96,640	93,840	88,320						
10,000	FP, CYR Arena	305,700	441,600	344,400						
1,056	FP, Porter Lake Skate House	7,295	6,850	7,125						
5,000	FP, Information Center, Ranger Station	28,578	32,817	33,584						
3,888	Franconia Golf Course - Clubhouse & Pro-shop	155,826	93,023	155,206						
	Greenleaf Pk	100,640	68,560	69,920						
	Nathan Bill Field House - Community Policing 157 Plumtree Rd	30,063	37,234	36,081						
	S Branch Pkwy @ 1059, Veterans - Club House Pump	233,360	220,480	206,144						
	Van 3 Horn Park Field House	73,685	83,074	78,255						
	Emily Bill - North End Community Council	42,581	39,915	44,355						
	Court St, Church Sign- Misc Seasonal Lighting	4,967	5,308	5,110						
	Emma's Place 1000 feet from Camp Wilder	10,991	9,166	7,388						
		37,172,940	36,650,331	36,459,291						

Additional Yearly Electricity Usages

		FY 07	FY 08	FY 09
Sq Ft	Building Name	Total kWh	Total kWh	Total kWh
	Street + Traffic Lights	10,584,865	10,137,864	9,104,772
	Parks, Terraces, etc.	1,188,033	1,208,157	1,198,278
		11,772,897	11,346,021	10,303,050

Facilities That Have Been Closed or Sold

		FY 07	FY 08	FY 09
Sq Ft	Building Name	Total kWh	Total kWh	Total kWh
	Mary Walsh 2 Elementary School - Portable	124,800	3,600	0
67,182	Zanetti Elementary School	161,520	153,680	146,880
2,976	Page Boulevard Fire Station #15 - 1 of 2	746	3,078	1,170
	Page Boulevard Fire Station #15 - 2 of 2	1,116	1,116	372
135,876	Chestnut School	103,146	92,849	108,926
		391,328	254,323	257,348

Facilities Purchased, Added or Reopened After 2007

		FY 07	FY 08	FY 09
Sq Ft	Building Name	Total kWh	Total kWh	Total kWh
17,000	Thomas J O'Connor Animal Control Center	0	0	0
17,141	Mason Square Library - Urban League of Spfld	0	0	0
	Safe School - OLoHConvent - Nye Street Campus	12,880	64,200	137,760
6,300	Massreco Street Fire Station #16 - Pine Point	3,221	19,678	33,598
	Our Lady of Sacred Heart School	0	0	0
	Zanetti Montessori OLH School	0	0	0
44,068	Old First Church	0	2,440	41,560
16,500	City Tow Yard	96,394	80,934	4,659
		112,495	167,252	217,577

	FY 07	FY 08	FY 09
Total kWh	49,449,661	48,417,926	47,237,266

**Criteria 4:
Purchase Only Fuel-Efficient Vehicles**

CITY OF SPRINGFIELD
In the City Council March 1, 2010

WHEREAS, improving the energy efficiency of city-owned motor vehicles will reduce fuel consumption and energy costs, reduce total lifetime costs of vehicle ownership, and reduce greenhouse gas emissions; and

WHEREAS, the most recently published US Environmental Protection Agency data define fuel efficient vehicles as having a combined city and highway MPG no less than:

Car:	2 wheel drive: 29 MPG	4 wheel: 24 MPG
Small pick-up truck:	2 wheel drive: 20 MPG	4 wheel drive: 18 MPG
Standard pick-up truck:	2 wheel drive: 17 MPG	4 wheel drive: 16 MPG

NOW, THEREFORE BE IT ORDERED, that in consultation with the School Committee, the City Council hereby adopts a policy that all City of Springfield divisions and departments, including all schools, purchase only fuel efficient vehicles for municipal and school use whenever such vehicles are commercially available and practicable, provided however that the following vehicles shall be exempt:

- Heavy-duty vehicles such as fire-trucks, ambulances, and public works trucks
- Police cruisers, provided however that police cruisers will no longer be exempt when fuel efficient cruisers become commercially available.

NOW, THEREFORE BE IT FURTHER ORDERED, that all divisions and departments, including all schools, maintain an annual vehicle inventory for non-exempt vehicles and develop a plan and process for replacing these vehicles with vehicles that meet the fuel efficiency ratings below, including goals for when the existing fleet will be replaced, and annually review said plan. This policy shall enforced by the Mayor and School Superintendent or their designees.

A true copy of an Order passed by the City Council on March 1, 2010
and approved by the Mayor on March 3, 2010.

Attest: *Wayne Lee*

City Clerk

Edward M. Pikula
City Solicitor

Law Department
36 Court Street, Room 210
Springfield, MA 01103
Office: (413) 787-6085
Direct Dial: (413) 787-6098
Fax: (413) 787-6173
Email: epikula@springfieldcityhall.com



THE CITY OF SPRINGFIELD, MASSACHUSETTS

April 28, 2010

Mark Sylvia, Director
Green Communities Division
Department of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114

Re : The City of Springfield's 20% Energy Reduction Plan and Vehicle Purchasing Policy

Dear Mr. Sylvia,

As the City's Chief Legal Counsel, it is my opinion, that the Mayor, as the City of Springfield's Chief Executive Officer and the City's Chief Administrative and Financial Officer (CAFO), have the authority to establish and enforce city-wide policies, including policies pertaining to the business and financial services department of the school department and those of the city under the authority of the CAFO. This is provided for pursuant to Chapter 468, Acts of 2008, Section 1 which states: "*the city of Springfield shall be deemed to have accepted section 37M of chapter 71 of the General Laws for the purpose of consolidating the operations of the business and financial services department of the school department with those of the city under the authority of the CAFO.*"

Twenty Percent (20%) Energy Reduction Plan (Criteria 3):

Measures highlighted in the City's 20% Energy Reduction Plan would be managed by City departments through the oversight of the Mayor and the CAFO. Municipal, as well as school buildings are operated and maintained by the City's Building Management Department. The City DPW Fleet Division monitors the gasoline usage of all city-owned vehicles which is also examined by the City's Finance Department. The City of Springfield doesn't own any of the traffic/street lights within the City's borders, but the City's Building Management Department does track and reconcile the utility usage before paying the bills while communicating regularly with the utility company with regard to usage.

Purchasing Fuel Efficient Vehicles (Criteria 4):

The procurement of all municipal and school vehicles is managed by the City's Office of Procurement. The School Department, as a city department must go through City's Office of Procurement to purchase any/all vehicles. The City's Chief Procurement Officer, who is appointed by the Mayor, per M.G.L. Chapter 30B is *an individual duly authorized pursuant to law, charter, or local by-law to procure a supply or service for a governmental body or to dispose of a supply, including an individual duly delegated to take any action in connection with a procurement, and further including any member of a board, committee, commission, or other body who participates in a procurement.*

Please feel free to contact me or Cheryn Wojcik, the City's Grants Director if you need further clarification.

Very truly yours,

A handwritten signature in black ink, appearing to read "Edward M. Pikula", with a stylized flourish at the end.

Edward M. Pikula
City Solicitor

City of Springfield Vehicle List

Unit ID	Make	Model	Year Purchased	Drive System	Weight Class	MPG	Miles Driven/Year	Total Fuel Consumption	Vehicle Function
11001	Chevrolet	Malibu	2001	2WD	Car & Light Truck	21.8	6024	266.5	Assessors
16012	Honda	Element	2006	2WD	Car & Light Truck	18	15984	840.9	TJO
16013	Honda	Element	2007	2WD	Car & Light Truck	18.3	17299	947.3	TJO
16915	Ford	Freestar	2006	2WD	Car & Light Truck	15.5	26987	1736	TJO
16911	Ford	Contour	1999	2WD	Car & Light Truck	19	3655	192.5	Community Development
16912	Ford	Contour	1999	2WD	Car & Light Truck	16.1	695	43.2	Community Development
17005	Ford	Focus SE	2008	2WD	Car & Light Truck	24.8	5654	225	Planning
33906	Ford	Escort SE	1999	2WD	Car & Light Truck	20.6	2301	111.5	Planning
20102	Ford	Contour	1999	2WD	Car & Light Truck	15.4	7046	458.2	Assessors
23003	Ford	E450	2003	2WD	Passenger Van	6.7	2850	427.9	Elder Affairs
23004	Chevrolet	G20/VAN	1995	2WD	Passenger Van	12	3439	299.5	Elder Affairs
26008	GMC	Safari	1987	2WD	Passenger Van	13.1	1411	107.5	Health
26014	Ford	Contour	1999	2WD	Car & Light Truck	19.1	6445	336.2	Health
26015	Ford	Contour	1999	2WD	Car & Light Truck	21.2	5495	264.7	Health
26016	Ford	Windstar	1999	2WD	Passenger Van	23.3	6488	283	Health
26017	Ford	E250	1999	2WD	Passenger Van	9.4	665	71.3	Health
26018	Ford	F150	1999	2WD	Car & Light Truck	12.9	3296	253	Health
26019	Ford	Windstar	1999	2WD	Passenger Van	12.6	3116	248.7	Health
27005	Ford	Focus SE	2008	2WD	Car & Light Truck	22.4	6584	293.1	Building
27007	Ford	Focus SE	2008	2WD	Car & Light Truck	23.6	4140	175	Building
27019	Ford	Contour	1998	2WD	Car & Light Truck	16.7	7261	434.1	Building
27021	Ford	Contour	1998	2WD	Car & Light Truck	11.5	6393	554.2	Building
27025	Ford	Contour	1998	2WD	Car & Light Truck	18.4	8985	488.5	Building
27026	Ford	Taurus LX	1998	2WD	Car & Light Truck	18.1	12733	703.5	Building
27027	Ford	Contour	1998	2WD	Car & Light Truck	14.8	9822	666.7	Building
27028	Ford	Contour	1998	2WD	Car & Light Truck	17.8	6817	384	Building
27031	Ford	Contour	1998	2WD	Car & Light Truck	18.3	5868	323	Weights & Measures
27032	Ford	Contour	1998	2WD	Car & Light Truck	16.3	3030	186.1	Weights & Measures
27043	Ford	Explorer	1998	2WD	Car & Light Truck	13.1	8541	655.6	Weights & Measures
27033	Ford	Contour	1998	2WD	Car & Light Truck	16.1	6954	430.4	Building
27034	Ford	Contour	1998	2WD	Car & Light Truck	20.1	5906	293	Building
27035	Ford	Contour	1998	2WD	Car & Light Truck	19.1	9570	499.6	Building
27037	Ford	Contour	1998	2WD	Car & Light Truck	16.6	4870	292.7	Building
27039	Ford	Contour	1998	2WD	Car & Light Truck	17.1	215	12.6	Building
27042	Ford	Taurus	1993	2WD	Car & Light Truck	13.8	3028	219.7	Building
27044	Ford	Contour	1998	2WD	Car & Light Truck	13.8	4319	312.7	Building
27045	Ford	Focus SE	2008	2WD	Car & Light Truck	29.3	6442	220.3	Building
27046	Ford	Contour	1999	2WD	Car & Light Truck	16.4	8719	535.5	Building
27047	Ford	Escort	1999	2WD	Car & Light Truck	19.4	2036	104.2	Building
31003	Ford	Crown Victoria P71	2008	2WD	Car & Light Truck	12.1	2921	247	Parks
31004	Ford	Crown Victoria P71	2008	2WD	Car & Light Truck	13	2575	207	Parks
31076	Ford	F800	1985	2WD	Car & Light Truck	1.5	96	64.3	Parks
31085	Ford	E350	2004	2WD	Passenger Van	17.1	5565	289.5	Parks
31107	Chevrolet	Silverado -K1500 4x4	2007	4WD	Car & Light Truck	30.1	12588	953.2	Parks
31108	Chevrolet	Silverado 1500	2007	4WD	Car & Light Truck	11.7	5629	490.7	Parks
31109	Chevrolet	Silverado 1500	2007	4WD	Car & Light Truck	9.6	8771	924.7	Parks
31110	Chevrolet	Silverado 1500	2007	4WD	Car & Light Truck	12.3	7391	598.5	Parks
31111	Chevrolet	Silverado	2007	4WD	Car & Light Truck	12.0	10811	893.5	Parks
31112	Chevrolet	Silverado CK 4x4	2007	4WD	Car & Light Truck	15.7	14837	1040.7	Parks

Unit ID	Make	Model	Year Purchased	Drive System	Weight Class	MPG	Miles Driven/Year	Total Fuel Consumption	Vehicle Function
31113	Chevrolet	Silverado	2007	4WD	Car & Light Truck	13.3	15807	1195	Parks
31114	Chevrolet	Silverado	2007	4WD	Car & Light Truck	17.2	15993	1153.1	Parks
31116	Chevrolet	Silverado 2500	2007	4WD	Car & Light Truck	16	8730	561.8	Parks
31118	Chevrolet	Silverado 2500	2007	4WD	Car & Light Truck	7.8	10063	1300.2	Parks
31119	Chevrolet	K2500 4x4	2007	4WD	Car & Light Truck	10.3	9703	959.4	Parks
31120	Chevrolet	K1500 4x4	2007	4WD	Car & Light Truck	13.4	5715	432	Parks
31121	Chevrolet	K1500 4x4	2007	4WD	Car & Light Truck	11.9	6891	585.9	Parks
31122	Chevrolet	K2500 4x4	2007	4WD	Car & Light Truck	8.4	8563	1031.5	Parks
31123	Chevrolet	K2500 4x4	2007	4WD	Car & Light Truck	8.3	7396	887.6	Parks
31124	Chevrolet	K2500 4x4	2007	4WD	Car & Light Truck	8.3	7708	930.8	Parks
31125	Chevrolet	Express	2007	2WD	Passanger Van	24.8	5513	237.3	Parks
31126	Chevrolet	Express	2007	2WD	Passanger Van	10.6	4683	442.4	Parks
31151	Ford	Dump	1988	4WD	Car & Light Truck	5.7	158	292.1	Parks
31152	Ford	Econoline	1994	2WD	Passanger Van	10.3	2984	291.8	Parks
31155	Chevrolet	2500	1986	4WD	Car & Light Truck	7.8	331	42.9	Parks
31165	Ford	F350	1995	4WD	Car & Light Truck	11.9	3660	327.8	Parks
31166	Ford	F350	1997	4WD	Car & Light Truck	17.8	4395	296.3	Parks
31167	Ford	F350 Pick Up plow	1997	4WD	Car & Light Truck	13.7	5825	414.5	Parks
31168	Ford	F350 Pick Up plow	1997	4WD	Car & Light Truck	16.3	4013	229	Parks
31169	Ford	F350	1997	4WD	Car & Light Truck	14.9	5117	343.4	Parks
31171	Ford	F350	1997	4WD	Car & Light Truck	10.7	302	146	Parks
31175	Ford	F350	1997	4WD	Car & Light Truck	9.5	2851	314.5	Parks
31180	Ford	Taurus Wagon	1999	2WD	Car & Light Truck	19.1	10287	541.7	Parks
31181	Ford	Taurus Wagon	1999	2WD	Car & Light Truck	16.1	7536	482.2	Parks
31184	Ford	Contour	1999	2WD	Car & Light Truck	16	2420	150	Parks
31185	Ford	Contour	1999	2WD	Car & Light Truck	15.9	1893	116.9	Parks
31188	Ford	F150	1999	4WD	Car & Light Truck	11.9	2468	260.9	Parks
31189	Ford	F150	1999	4WD	Car & Light Truck	12.1	4430	366.2	Parks
31190	Ford	F150	1999	4WD	Car & Light Truck	11.4	7166	637.1	Parks
31191	Ford	F150	1999	4WD	Car & Light Truck	7.2	98	13.7	Parks
31197	Ford	F150	1999	4WD	Car & Light Truck	11.1	2633	238.2	Parks
31198	Ford	F150	1999	4WD	Car & Light Truck	10.1	1481	198.4	Parks
31199	Ford	F150	1999	4WD	Car & Light Truck	10.1	5835	579.7	Parks
31200	Ford	F250	1999	4WD	Car & Light Truck	7.7	2357	304	Parks
31201	Ford	E250	1999	2WD	Passanger Van	15.6	1859	132.6	Parks
31202	Ford	Crown Victoria	1999	2WD	Car & Light Truck	10.1	672	66	Parks
31203	Ford	Crown Victoria	1999	2WD	Car & Light Truck	11	638	57.4	Parks
31207	Ford	F250	1999	4WD	Car & Light Truck	9.7	1954	327.4	Parks
31208	Ford	Explorer	1999	4WD	Car & Light Truck	7.7	562	76.8	Parks
31209	Ford	Explorer	1999	4WD	Car & Light Truck	9.0	586	64.4	Parks
31211	Ford	F350	1999	4WD	Car & Light Truck	11.3	5877	522.9	Parks
31213	Ford	F350	1999	4WD	Car & Light Truck	8.5	9389	1112.2	Parks
31214	Ford	F350 Crew Cab	1999	4WD	Car & Light Truck	9.5	1844	200.2	Parks
31215	Ford	F350 Crew	1999	4WD	Car & Light Truck	10.3	5746	677.7	Parks
31216	Ford	F350 Crew dump	1999	4WD	Car & Light Truck	10.0	6036	602.8	Parks
31217	Ford	Explorer	1999	4WD	Car & Light Truck	11.6	2822	245.2	Parks
31218	Ford	F350 Dump	1999	4WD	Car & Light Truck	5.0	1829	394.2	Parks
31219	Ford	F350	1999	4WD	Car & Light Truck	8.3	3098	364.6	Parks
31220	Ford	F350 Dump	1999	4WD	Car & Light Truck	10.4	7838	771.4	Parks
31224	Chevrolet	Express 3500	1999	2WD	Passanger Van	12.5	3770	314.8	Parks
31226	Dodge	3500	1998	2WD	Passanger Van	12.3	1631	131.2	Parks
31234	Chevrolet	2500	1999	4WD	Car & Light Truck	10.2	3418	335.7	Parks

Unit ID	Make	Model	Year Purchased	Drive System	Weight Class	MPG	Miles Driven/Year	Total Fuel Consumption	Vehicle Function
31235	Chevrolet	C2500	1998	4WD	Car & Light Truck	8.3	3299	400.7	Parks
31236	Chevrolet	C2500	1998	4WD	Car & Light Truck	8.3	7537	915.2	Parks
31237	Ford	Taurus-SE	1999	2WD	Car & Light Truck	13.1	8414	645.6	Parks
31250	Chevrolet	Silverado	2007	4WD	Car & Light Truck	6.4	5428	910.3	Parks
31251	Chevrolet	Silverado 3500	2007	4WD	Car & Light Truck	8.9	14862	2027.2	Parks
31252	Chevrolet	Silverado	2007	4WD	Car & Light Truck	6.2	6241	1035.5	Parks
31254	Chevrolet	Silverado	2007	4WD	Car & Light Truck	6.4	4420	719.1	Parks
31255	Chevrolet	Silverado 3500	2007	4WD	Car & Light Truck	7.1	10934	1569.1	Parks
31256	Chevrolet	Silverado 3500	2007	4WD	Car & Light Truck	7.5	4563	667.5	Parks
31910	Ford	Contour	1999	2WD	Car & Light Truck	18.1	3100	170.8	Parks
35002	Chevrolet	Lumina	1997	2WD	Car & Light Truck	17.3	3110	179.8	Facilities
35003	Ford	Expedition	1998	4WD	Car & Light Truck	8.5	10947	1300.2	Facilities
35006	Chevrolet	Lumina	1997	2WD	Car & Light Truck	16	3937	247.5	Facilities
35013	Ford	F150	1999	4WD	Car & Light Truck	11.9	6652	556.2	Facilities
35112	Ford	Econoline	1993	2WD	Passenger Van	8.13	1442	177.3	Facilities
35114	Ford	E350	1993	2WD	Passenger Van	9.7	6281	648.8	Facilities
35115	Ford	E350	1993	2WD	Passenger Van	8.5	4286	513.1	Facilities
35117	Ford	Explorer	1998	4WD	Car & Light Truck	12.2	3532	298.7	Facilities
35119	Ford	F150	1999	4WD	Car & Light Truck	10	5003	544.9	Facilities
35121	Ford	F350	1999	4WD	Car & Light Truck	12.4	11663	940.6	Facilities
35122	Ford	F350	1999	4WD	Car & Light Truck	8.7	3079	345.9	Facilities
35123	Ford	F350	1999	4WD	Car & Light Truck	10.4	530	50.5	Facilities
35124	Ford	E350	1993	2WD	Passenger Van	10	3742	377.1	Facilities
35125	Ford	E350	1993	2WD	Passenger Van	11.5	6742	598.7	Facilities
35126	Ford	F250	1999	4WD	Car & Light Truck	10.7	5432	556.8	Facilities
35128	Ford	Econoline	1999	2WD	Passenger Van	10	5815	586	Facilities
35130	Ford	Econoline	1999	2WD	Passenger Van	11.4	6460	580.3	Facilities
35131	Ford	E250	1999	2WD	Passenger Van	9.6	4281	450.8	Facilities
35132	Ford	E250	1999	2WD	Passenger Van	7.9	3528	446.1	Facilities
35133	Ford	E250	1999	2WD	Passenger Van	10.8	2904	274.2	Facilities
35134	Ford	E250	1999	2WD	Passenger Van	11.2	8556	759	Facilities
35135	Ford	Econoline	1999	2WD	Passenger Van	10.2	6005	588.5	Facilities
35136	Ford	E250	1999	2WD	Passenger Van	9.8	1638	169.2	Facilities
35138	Ford	F250	1999	4WD	Car & Light Truck	9.5	7382	787.9	Facilities
35140	Chevrolet	Silverado 1500	2007	4WD	Car & Light Truck	10.5	6892	664.2	Facilities
35141	Chevrolet	Silverado 1500	2007	4WD	Car & Light Truck	12	6111	527.3	Facilities
35142	Chevrolet	Express	2007	2WD	Passenger Van	28.3	8113	767.6	Facilities
35143	Chevrolet	Express	2007	2WD	Passenger Van	10.6	7609	770.7	Facilities
35144	Chevrolet	Express	2007	2WD	Passenger Van	9.7	5403	554.8	Facilities
35145	Chevrolet	Express	2007	2WD	Passenger Van	9.9	6458	664.2	Facilities
35146	Chevrolet	Express	2007	2WD	Passenger Van	13.9	8190	727.6	Facilities
35147	Chevrolet	Express	2007	2WD	Passenger Van	9.4	6873	746.2	Facilities
35148	Chevrolet	Express (CG33405)	2007	2WD	Passenger Van	9.6	4389	456	Facilities
35149	Chevrolet	Express (CG33405)	2007	2WD	Passenger Van	10.1	7704	760.8	Facilities
35150	Chevrolet	Express	2007	2WD	Passenger Van	11.2	3979	355.7	Facilities
35151	Chevrolet	Express (CG33405)	2007	2WD	Passenger Van	11.1	8564	785.5	Facilities
35152	Chevrolet	Express	2007	2WD	Passenger Van	11.6	3124	312.2	Facilities
35153	Chevrolet	Express (CG33405)	2007	2WD	Passenger Van	11.3	3678	328	Facilities
35154	Chevrolet	Express (CG33405)	2007	2WD	Passenger Van	10.8	6968	654.5	Facilities
35155	Chevrolet	Express (CG33405)	2007	2WD	Passenger Van	9.6	6878	716.4	Facilities
35157	Chevrolet	EXPRESS Cube	2007	2WD	Passenger Van	8.7	928	107.3	Facilities
37102	Chevrolet	Blazer	1998	4WD	Car & Light Truck	14.3	3443	241.4	Public Works

Unit ID	Make	Model	Year Purchased	Drive System	Weight Class	MPG	Miles Driven/Year	Total Fuel Consumption	Vehicle Function
37105	Chevrolet	Blazer	2001	4WD	Car & Light Truck	15.3	5073	437.9	Public Works
37107	Chevrolet	Blazer	2001	4WD	Car & Light Truck	14	7843	570.7	Public Works
37109	Ford	Crown Victoria	1997	2WD	Car & Light Truck	9.8	4722	483.1	Public Works
37113	Ford	Crown Victoria	1993	2WD	Car & Light Truck	15.6	6440	472.4	Public Works
37116	Ford	Taurus Wagon	1998	2WD	Car & Light Truck	14	2994	212.3	Public Works
37117	Ford	Taurus Wagon	1998	2WD	Car & Light Truck	16	9857	617.3	Public Works
37118	Ford	Taurus Wagon	1998	2WD	Car & Light Truck	15.7	1770	112.6	Public Works
37119	Ford	Crown Victoria	1997	2WD	Car & Light Truck	18.1	3719	214.3	Public Works
37120	Ford	Bronco	1992	4WD	Car & Light Truck	9.2	4105	452.6	Public Works
37121	Ford	Crown Victoria	1998	2WD	Car & Light Truck	12.1	3054	252	Public Works
37123	Ford	Crown Victoria	1995	2WD	Car & Light Truck	12.3	3283	267.4	Public Works
37126	Ford	Crown Victoria	1998	2WD	Car & Light Truck	11.4	10579	930	Public Works
37129	Ford	Crown Victoria	1998	2WD	Car & Light Truck	12.6	7136	572.5	Public Works
37160	GMC	Savana 3500	2000	2WD	Car & Light Truck	9.7	2607	284.1	Public Works
37162	GMC	Savana 3500	2000	2WD	Car & Light Truck	12.2	13386	1110.3	Public Works
37164	Chevrolet	CK2500 4x4	2004	4WD	Car & Light Truck	9.6	13245	1371.8	Public Works
37165	Chevrolet	CK2500 4x4	2004	4WD	Car & Light Truck	9.8	13654	1402.7	Public Works
37166	Chevrolet	CK2500 4x4	2004	4WD	Car & Light Truck	8.3	7710	929.9	Public Works
37170	GMC	Sierra	1987	4WD	Car & Light Truck	10.8	3900	375.7	Public Works
37174	Ford	F350	2008	4WD	Car & Light Truck	9.8	14087	1473.6	Public Works
37176	Ford	E350	1999	2WD	Passenger Van	7.1	1269	170.8	Public Works
37179	Ford	E150	1995	4WD	Car & Light Truck	27.8	4324	378.6	Public Works
37182	GMC	Savana	2006	2WD	Car & Light Truck	8.09	10291	1271.9	Public Works
37186	Ford	E150	1995	4WD	Car & Light Truck	7.7	231	30	Public Works
37187	Ford	E350	2008	2WD	Passenger Van	6.6	4061	675.7	Public Works
37190	Ford	Ranger TRK PU/2D	1995	2WD	Car & Light Truck	11.6	2252	213.9	Public Works
37194	Ford	TRK PU/2DR 4x4	1995	4WD	Car & Light Truck	11.1	15974	1461	Public Works
37197	Chevrolet	TRK PU FWD	1986	4WD	Car & Light Truck	9.2	2657	296.3	Public Works
37201	Ford	F150	2003	2WD	Car & Light Truck	15.5	3694	237	Public Works
37202	Ford	F150	2003	4WD	Car & Light Truck	9.1	9357	1028.4	Public Works
37208	Chevrolet	C3500	1999	4WD	Car & Light Truck	7.9	1141	146.2	Public Works
37209	Ford	F150	2000	2WD	Car & Light Truck	16.6	11993	1130.5	Public Works
37210	Ford	TRK PU/2DR	1999	2WD	Car & Light Truck	11.9	3906	320	Public Works
37211	Ford	F150 4x4	1999	4WD	Car & Light Truck	11.2	12925	1143.1	Public Works
37213	Ford	TRK PU/2DR	1999	2WD	Car & Light Truck	16.7	3807	369.7	Public Works
37214	GMC	Sierra	2007	4WD	Car & Light Truck	9.7	9703	1015	Public Works
37215	GMC	Sierra	2007	4WD	Car & Light Truck	7.9	3355	417.5	Public Works
37216	GMC	Sierra	2007	4WD	Car & Light Truck	7.9	6771	866.6	Public Works
37219	Ford	F150	2000	2WD	Car & Light Truck	11.4	14928	1323.1	Public Works
37220	Ford	F350	2007	4WD	Car & Light Truck	8.3	12638	1599.1	Public Works
37222	Ford	TRK PU/2DR	1999	2WD	Car & Light Truck	10.4	210	20.1	Public Works
37223	Ford	F350	2007	4WD	Car & Light Truck	7.7	16833	2165.6	Public Works
37224	Chevrolet	K3500 4x4	1994	4WD	Car & Light Truck	5.3	4249	801.4	Public Works
37225	Chevrolet	C2500	1999	2WD	Car & Light Truck	9.3	868	100.6	Public Works
37231	Ford	F350	2008	2WD	Car & Light Truck	8.9	17260	1967.1	Public Works
37232	Ford	F350	2003	4WD	Car & Light Truck	9.2	12884	1419.2	Public Works
37233	Ford	E350	2003	2WD	Passenger Van	6.3	4602	790	Public Works
37237	GMC	Sierra 3500	2007	4WD	Car & Light Truck	9.3	3876	431.2	Public Works
37257	Chevrolet	3500	1999	2WD	Car & Light Truck	5.0	427	86.1	Public Works
37258	GMC	Savana 3500	2000	2WD	Cube Van	6.0	1377	231.3	Public Works
41004	Ford	SupWag Van	1992	2WD	Passenger Van	7.8	3655	470	School
41048	Ford	F350	1993	4WD	Car & Light Truck	4.2	1758	426.3	School

Unit ID	Make	Model	Year Purchased	Drive System	Weight Class	MPG	Miles Driven/Year	Total Fuel Consumption	Vehicle Function
41049	Ford	F350	1994	4WD	Car & Light Truck	5.7	2678	474.1	School
41051	Chevrolet	C-30 SB 18520	1985	4WD	Car & Light Truck	5.7	2579	459.1	School
41052	Ford	F250	1995	4WD	Car & Light Truck	18.9	26052	1566.7	School
41054	Ford	F350	1995	4WD	Car & Light Truck	3.9	178	43.1	School
41055	Ford	F250 4x4	1995	4WD	Car & Light Truck	17.3	15513	1048.1	School
41056	Ford	F250	1995	4WD	Car & Light Truck	7.7	4943	634.2	School
41061	Ford	Pick-up	1997	4WD	Car & Light Truck	7.1	3394	469.5	School
41067	Ford	Explorer	1999	4WD	Car & Light Truck	11.4	3521	305	School
41070	Ford	E350	1999	2WD	Passanger Van	7.3	7429	1036.1	School
41071	Ford	F250	1999	4WD	Car & Light Truck	7	1100	158.5	School
41079	Dodge	Van	1994	2WD	Passanger Van	13.7	3704	281.4	School
41081	Chevrolet	Van	2000	2WD	Passanger Van	11.6	8675	748.7	School
41082	GMC	Safari	2000	2WD	Passanger Van	18.1	7195	389.9	School
41086	Ford	F450	2001	4WD	Car & Light Truck	5.5	506	91	School
41088	Ford	F450	2002	4WD	Car & Light Truck	6.8	1239	193.3	School
41092	Chevrolet	Van	1999	2WD	Passanger Van	12.3	1283	104.5	School
41094	GMC	Savana 3500	1999	2WD	Car & Light Truck	7.9	5304	693.5	School
41095	Ford	F SERIES	1999	4WD	Car & Light Truck	8.6	9586	1110.3	School
41097	Ford	F800	1999	2WD	Car & Light Truck	8.0	1112	139.5	School
41099	Dodge	Caravan	1996	2WD	Passanger Van	16.1	5240	341.9	School

VEHICLE REPLACEMENT PLAN

In an effort to reduce Springfield's fuel consumption and energy cost over the next five years the City Council adopted a policy to purchase only fuel efficient vehicles, where commercially available and practicable, to meet this goal.

Vehicles will be replaced as they become obsolete . Under normal circumstances the criteria used to determine which vehicles to replace includes repair cost, safety, years in service, and greatest need. Under this new plan non exempt vehicles will be replaced with fuel efficient vehicles using the same rubric. Under this policy any new vehicle purchased, not as a direct replacement of an existing vehicle, will be fuel efficient.

The goal is to have the entire non-exempt vehicle fleet replaced with a fuel efficient fleet within ten years.

FY 09 Replacement Schedule

12/21/2009

FY 09 Replacement Schedule - General Fund

ID	Year	Make	Model	Mileage	Department	Est. Replacement Cost
16908	1999	Chevrolet	Venture	112,135	Community Development	\$25,000
20102	1999	Ford	Contour	36,881	Assessors	\$16,000
23002	1994	Dodge	Van - 10 pass.	248,684	Elder Affairs	\$30,000
26014	1999	Ford	Contour	72,475	Health	\$16,000
27033	1998	Ford	Contour	77,238	Building	\$16,000
27034	1998	Ford	Contour	88,432	Building	\$16,000
27036	1998	Ford	Contour	104,779	Housing	\$16,000
27038	1998	Ford	Contour	83,615	Housing	\$16,000
35006	1997	Chevrolet	Lumina	114,924	Facilities	\$25,000
37102	1998	Chevrolet	Blazer	156,728	Solid Waste	\$25,000
37109	1997	Ford	Crown Vic.	144,659	Solid Waste	\$25,000
37112	1995	Chrysler	Concord	193,996	Administration	\$25,000
37170	1987	GMC	Sierra	137,169	Garage	\$35,000
37179	1995	Ford	E150 Econline	92,058	Engineering	\$25,000
37217	1993	Ford	TRK PU/2DR	235,063	Streets	\$35,000
37265	1996	Mack	RD690P	139,874	Streets	\$135,000
37275	1988	Ford	L8000	490 hours	Streets	\$135,000
37276	1988	Ford	TKDUODUMP	118,865	Streets	\$135,000
37412	1971	BOMBARDIER	TRACK/MACH	NA	Streets	\$40,000
37483	1983	Pwray/INTL	TLR Htr/asph	NA	Streets	\$50,000
41049	1994	Ford	F350 XL	82,365	School	\$30,000
41052	1995	Ford	F250	73,836	School	\$23,000
New		Ford	Escape Hybrid		ITD	\$25,000
New		Ford	Escape Hybrid		Health	\$25,000
New		Ford	F250 w/plow		Library	\$35,000
New		Ford	E250 Cargo Van		Facilities	\$24,000
Total Equipment						\$1,003,000.00

FY 09 Replacement Schedule - Enterprise Fund

ID	Year	Make	Model	Mileage	Department	Est. Replacement Cost
37304	2001	Mack	LE600	52,515	Enterprise	\$255,000
37305	2001	Mack	LE600	51,548	Enterprise	\$255,000
37306	2001	Mack	LE600	53,933	Enterprise	\$255,000
37307	2001	Mack	LE600	43,152	Enterprise	\$255,000
Total Equipment						\$1,020,000.00

Grand Total 30

\$2,023,000.00

Lease Payment Calculation (GRAND TOTAL)

\$2,023,000 @ .018465 = \$37,354.90 x 12 = \$448,256.34 Annual Payment for 5 Years
 .018465 = Interest Rate of 4.18%

Lease Payment Calculation (General Fund)

\$1,003,000 @ .018465 = \$18,520.40 x 12 = \$222,244.80 Annual Payment for 5 Years

Lease Payment Calculation (Enterprise Fund)

\$1,020,000 @ .018465 = \$18,834.30 x 12 = \$226,011.60 Annual Payment for 5 Years

FY 10 Replacement Schedule

12/21/2009

FY 10 Replacement Schedule - General Fund

ID	Year	Make	Model	Mileage	Department	Est. Replacement Cost
27020	1998	Ford	Contour	60,137	Building	\$16,500
27022	1998	Ford	Contour	82,035	Housing	\$16,500
27025	1998	Ford	Contour	84,039	Building	\$16,500
27031	1998	Ford	Contour LX P65	85,382	Weights & Measures	\$16,500
27040	1998	Ford	Contour	73,731	Housing	\$16,500
37106	1992	Ford	Explorer	124,357	Traffic	\$31,000
37116	1998	Ford	Taurus Wagon	54,425	Administration	\$25,000
37238	1999	GMC	SAVANA	NA-Broken O	Streets	\$20,000
37176	1999	Ford	E350	121,914	Garage	\$20,000
37177	1999	Chevrolet	CG11406	88,348	Mayor's Clean Cities	\$40,000
37209	2000	Ford	F-150	104,581	Solid Waste	\$30,000
37210	1999	Ford	TRK PU/2DR	67,404	Solid Waste	\$35,000
37219	2000	Ford	F-150	150,702	Solid Waste	\$30,000
37262	1987	Ford	L8000	251,372	Streets	\$140,000
37269	1983	International	2500	137,267	Streets	\$140,000
37345	1994	Mack	DM690SX	2688 hours	Solid Waste	\$190,000
37346	1994	Mack	DM690SX	7487 hours	Solid Waste	\$190,000
40006	1999	Ford	Contour	80,075	Assessors	\$16,500
Total Equipment			19			\$990,000

FY 10 Replacement Schedule - Enterprise Fund

ID	Year	Make	Model	Mileage	Department	Est. Replacement Cost
37308	2001	Mack	LE600	47,332	Enterprise	\$255,000
Total Equipment			5			\$255,000

Grand Total 24

\$1,245,000

Lease Payment Calculation (GRAND TOTAL)

\$1,245,000 @ .018465 = \$22,988.93 x 12 = \$275,867.10 Annual Payment for 5 Years
 .018465 = Interest Rate of 4.18%

Lease Payment Calculation (General Fund)

\$990,000 @ .018465 = \$18,280.35 x 12 = \$219,364.20 Annual Payment for 5 Years

Lease Payment Calculation (Enterprise Fund)

\$255,000 @ .018465 = \$4,708.58 x 12 = \$56,502.90 Annual Payment for 5 Years

FY 11 Replacement Schedule

12/17/2009

FY 11 Replacement Schedule - General Fund

ID	Year	Make	Model	Mileage	Department	ReplacementCost
27026	1998	Ford	Taurus LX	Broken O	Code Enforcement-Building	\$17,000
27033	1998	Ford	Contour	77,238	Code Enforcement-Building	\$17,000
27035	1998	Ford	Contour	80,390	Code Enforcement-Building	\$17,000
27037	1998	Ford	Contour	67,232	Code Enforcement-Building	\$17,000
27043	1998	Ford	Explorer	91,843	Code Enforcement-Weights & Measures	\$25,000
27044	1998	Ford	Contour	58,838	Code Enforcement-Building	\$17,000
37247	2001	GMC	Savana Cu Van	89,660	Solid Waste	\$25,000
37260	1988	Ford	L8000	68,723	Streets	\$140,000
37267	1994	Mack	RD690P	137,642	Streets	\$140,000
37266	1994	Mack	RD690P	11212 hou	Streets	\$140,000
						\$ 555,000.00

Total Equipment 11

Grand Total 11

\$ 555,000.00

Lease Payment Calculation (GRAND TOTAL)

\$555,000 @ .018465 = \$10,248.08 x 12 = \$122,976.96 Annual Payment for 5 Years
 .018465 = Interest Rate of 4.18%

FY 12 Replacement Schedule

12/17/2009

FY 12 Replacement Schedule - General Fund

ID	Year	Make	Model	Mileage	Department	ReplacementCost
27019	1998	Ford	Contour LX	62,949	Code Enforcement-Building	\$18,000
27023	1998	Ford	Contour	51,906	Code Enforcement-Housing	\$18,000
27027	1998	Ford	Contour	75,814	Code Enforcement-Building	\$18,000
27030	1998	Ford	Contour	68,796	Code Enforcement-Housing	\$18,000
27032	1998	Ford	Contour	55,756	Code Enforcement-Weights & Measures	\$18,000
37261	1996	Mack	RD690P	126,663	Streets	\$140,000
37264	1996	Mack	RD690P	NA-Broken O	Streets	\$140,000
37268	1992	Mack	RD690P	132,398	Streets	\$140,000
37280	1993	Mack	RD690P	124,109	Streets	\$140,000
37281	1993	Mack	RD690P	118,761	Streets	\$140,000
37326	2002	Freightliner	FL 70	55,527	Solid Waste	\$75,000
37348	2003	Freightliner	Condor	57,628	Solid Waste	\$200,000
37349	2003	Freightliner	Condor	64,985	Solid Waste	\$200,000
						\$1,065,000.00

Total Equipment 12

Lease Payment Calculation (General Fund)

\$1,065,000 @ .018465 = \$19,664.16 x 12 = \$235,969.92 Annual Payment for 5 Years

FY 13 Replacement Schedule

12/17/2009

FY 13 Replacement Schedule - General Fund

ID	Year	Make	Model	Mileage	Department	ReplacementCost
16911	1999	Ford	Contour	62,740	Community Development	\$18,000
27029	1998	Ford	Contour	38,082	Code Enforcement-Housing	\$18,000
27039	1998	Ford	Contour	49,097	Code Enforcement-Building	\$18,000
27041	1998	Ford	Contour	47,733	Code Enforcement-Housing	\$18,000
35139	1993	Ford	Taurus	38,435	Facilities	\$18,000
37201	2003	Ford	F-150	42,192	Solid Waste	\$35,000
37232	2003	Ford	F350 XL Super Duty	76,261	Solid Waste	\$35,000
37259	2001	Freightliner	FL 80	34,518	Streets	\$140,000
37296	2007	International	7400	38,269	Streets	\$140,000
37282	2000	International	4900	NA-Broken	Streets	\$140,000
37285	1981	International	2500	NA-Broken	Streets	\$100,000
37324	1988	Mack	TKREFBLKCL	133,332	Solid Waste	\$75,000
37327	2002	Freightliner	FL 70	107,065	Solid Waste	\$35,000
37411	1978	Bombadier	Track/Mach	NA	Streets	\$ 40,000
37471	1987	Grm/Schmidt	160/210	1035 hours	Streets	\$ 30,000
37484	1995	Hamm	TLR/Asph	NA	Streets	\$ 50,000
41079	1994	Dodge	Van	161,011	School	\$35,000
41099	1996	Dodge	Caravan	177,027	School	\$35,000
46003	1992	Ford	LTD	35,130	Civil Defense	\$18,000
						\$ 998,000.00

Total Equipment 19

FY 13 Replacement Schedule - Enterprise Fund

ID	Year	Make	Model	Mileage	Department	Est. ReplacementCost
37356	2008	Autocar	Expeditor	18,349	Enterprise	\$300,000
37357	2008	Autocar	Expeditor	17,482	Enterprise	\$300,000
37358	2008	Autocar	Expeditor	18,953	Enterprise	\$300,000
37359	2008	Autocar	Expeditor	17,313	Enterprise	\$300,000
37360	2008	Autocar	Expeditor	16,765	Enterprise	\$300,000
						\$1,500,000.00

Total Equipment 5

Grand Total 24 \$2,498,000.00

Lease Payment Calculation (GRAND TOTAL)

\$2,498,000 @ .018465 = \$46,125.57 x 12 = \$553,506.84 Annual Payment for 5 Years
 .018465 = Interest Rate of 4.18%

Lease Payment Calculation (General Fund)

\$998,000 @ .018465 = \$18,428.07 x 12 = \$221,136.84 Annual Payment for 5 Years

Lease Payment Calculation (Enterprise Fund)

\$1,500,000 @ .018465 = \$27,697.50 x 12 = \$332,370.00 Annual Payment for 5 Years

budget/leasepayments FY 08									
3/1/2010									
Non-Master Lease Payments (Park Dept)									
	VEHICLE/EQUIPMENT	FY	FY	FY	FY	FY	FY	FINANCE COMPANY	Purchase Price
		2008	2009	2010	2011	2012			
QUANTITY	EQUIPMENT								
3	UTILITY TRAILER	\$3,775.50	\$3,775.50	\$3,775.50	\$3,775.50	\$3,775.50	Ingersoll Rand Financial	\$16,800.00	
1	BOBCAT 185	\$6,899.24	\$6,899.24	\$6,899.24	\$6,899.24	\$6,899.24	Ingersoll Rand Financial	\$31,078.00	
1	BOBCAT 330	\$15,740.89	\$15,740.89	\$15,740.89	\$15,740.89	\$15,740.89	Ingersoll Rand Financial	\$71,400.00	
	SNOW PLOWS BLADES	\$2,403.21	\$2,403.21	\$2,403.21	\$2,403.21	\$2,403.21	Ingersoll Rand Financial	\$10,766.00	
	Sub-Total	\$28,818.84	\$28,818.84	\$28,818.84	\$28,818.84	\$28,818.84		\$130,044.00	
1	18" TREE CHIPPER	\$11,928.15	\$11,928.15	\$11,928.15	\$11,928.15	\$11,928.15	Kansas State Bank of Manhattan	\$53,200.00	
1	15" TREE CHIPPER	\$9,380.88	\$9,380.88	\$9,380.88	\$9,380.88	\$9,380.88	Kansas State Bank of Manhattan	\$41,964.00	
	Sub-Total	\$21,309.03	\$21,309.03	\$21,309.03	\$21,309.03	\$21,309.03		\$95,164.00	
	Grand Total	\$50,127.87	\$50,127.87	\$50,127.87	\$50,127.87	\$50,127.87		\$225,208.00	

**Criteria 5:
Minimize Life-Cycle Costs**

CITY OF SPRINGFIELD
In the City Council March 1, 2010

WHEREAS, the City of Springfield understands the importance and benefits of reducing energy demand and emissions of greenhouse gases as goals and recommends stricter minimum energy standards for the building code, and

WHEREAS, improving the energy efficiency of buildings will reduce total lifetime costs to property owners and tenants, reduce greenhouse gas emissions, and increase the amount of economic activity that is retained within our local economy, and

WHEREAS, Municipalities have a local option to adopt a portion of the building code with more stringent energy efficiency standards that lower the total lifetime cost of building ownership and operation "Stretch Code" and

WHEREAS, a Special Committee of the City Council (Committee on Green City Initiatives) held public hearings on the "Stretch Code" prior to the enactment of this order; (A summary copy of the Code is attached hereto as Exhibit "A"),

WHEREAS, the Code requires "local acceptance", which under the City of Springfield "Plan A" form of government, requires the approval of the City Council and the Mayor; and

WHEREAS, the City Council believes that accepting the Code would be in the best interests of the City; and

NOW THEREFORE, BE IT ORDERED, that the Springfield City Council hereby accepts the provisions of Appendix 120.AA of the Massachusetts Board of Building Regulations and Standards also known as the Stretch Energy Code, for the City of Springfield. (A copy of the full Code is on file in the City Clerk Office).

A true copy of an Order passed by the City Council on March 1, 2010
and approved by the Mayor on March 3, 2010.

Attest: 

City Clerk

"Stretch Code" Information Sessions

Target Audience: Pioneer Valley builders, realtors, building and development officials, property owners and all others concerned about the future of Easthampton, Hadley, and Northampton

Tuesday, February 23, 1:30 – 3:30 pm
Easthampton Town Hall, 50 Payson Avenue, 2nd Floor

Tuesday, March 16, 7 – 9 pm
Northampton Senior Center, 67 Conz Street

Feel free to attend either session based on your schedule-- R.S.V.P. to Catherine Ratté, Pioneer Valley Planning Commission at 781-6045 or cratte@pvpc.org

In 2008 the Massachusetts Legislature created the Green Communities program. The program encourages "Green" behavior by municipalities. "Green" behavior means efforts that reduce energy use. Reducing energy use saves municipalities money—so "Green" also means saving money. For more information on Green Communities go to: www.mass.gov/energy/greencommunities

All Massachusetts municipalities that meet the 5 Green Communities criteria (listed at website) will be eligible to apply for a portion of the \$7 million set aside to make Massachusetts cities and towns even greener. Easthampton, Hadley and Northampton, along with 103 other cities and towns, are working to meet the Green Communities criteria. The Massachusetts Department of Energy and Resources (DOER) is administering the Green Communities program and they have established **May 14, 2010 as the deadline** for Green Community designation requests. As a result, **time is of the essence**.

One of the Green Communities criteria is adoption of the "Stretch Code" an optional amendment to Massachusetts' building code that will result in approximately 20% better energy efficiency for new residential and commercial buildings compared to baseline energy code.

These workshops are designed to answer your questions about what adoption of the Stretch Code might mean for you—as a builder, municipal official, elected official, property owner or just an interested person who cares about the future of your community. Come to whichever workshop fits your schedule. Please rsvp (contact info above).

Easthampton workshop 2/23

1:30 – Welcome and Introductions
1:40 – Brief overview of the Green Communities program—Jim Barry, Regional Coordinator, DOER
1:50 – What is the Stretch Code, HERS rating and how will it affect residential and commercial building? – Dan Hellyer, Building Inspector, E. Longmeadow
2:45 – Questions and Answers
3:30 – End

Northampton workshop 3/16

7:00 – Welcome and Introductions
7:10 – Brief overview of the Green Communities Program – Jim Barry, Regional Coordinator, DOER
7:20 – Panel Presentation— What is the Stretch Code, HERS rating, and how will they affect construction, affordability, and energy efficiency? -- Dan Hellyer, Building Inspector, E. Longmeadow - Doug Snyder, Principal, DS Greenbuild, LLC - Sean Jeffords - Owner, Beyond Green Construction - Delbert Smith, Jr., PE, CPD, Principal, Consulting Engineering Services, Inc. (invited)
8:20 – Questions & Answers
9:00 – End

Springfield, Massachusetts



SEARCH SITE

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Building Code Enforcement

- Stretch Energy Code
- Building Permits Lookups
- Find Inspectors
- Forms & Applications
- Housing
- Newsletter
- Report a Code Violation
- Weights & Measures
- Zoning Board of Appeals

Department of Code Enforcement / Building Division

70 Tapley Street ([map](#))
 Springfield, MA 01104
 Phone 413.787.6031
 TTY 413.787.6641
 Fax 413.787.6023
 M-F 7:00 a.m. - 4:30 p.m.

- Online Services:
- Help and Answers:
- City Departments:

Building Code Enforcement

[Proposed Stretch Energy Code](#)

[Inspectional Services Permitting Guide](#)

Building Code Rules & Regulations

These files are in Adobe PDF format. If you have trouble opening them, you may need to download the [Adobe Acrobat reader](#) (free).

[City Ordinances Title 12: Building & Construction](#)

[City Zoning Ordinances](#)

[Subdivision Regulations](#)

[Zoning Board Of Appeals](#)

[Zoning Board Rules](#)

Fee Schedules

- [Required Minimum Inspections and Certificates for Specified Use Groups](#)
- [Building Permit Fee Schedule](#)
- [Electrical Fee Schedule](#)
- [Plumbing and Gas-fitting Fee Schedule](#)
- [Sign Permit Fees](#)
- [Sprinkler Fees](#)

The building division is responsible for the enforcement of the state building code, handicapped access regulations, zoning ordinances, and conditions attached to special permits. It issues permits for building, wiring, plumbing, gas, and signs and performs plan reviews, on-site inspection of all new construction, alterations, and repairs. The division also oversees change of use and occupancy, demolitions, and zoning violations. Building permits must be obtained before construction begins.

Recent Updates

Monday, 03-01-2010

Building Code Enforcement

Proposed Stretch Energy Code
 Inspectional Services Permitting Guide
 Building Code Rules & Regulations
 These files are in Adobe PDF format. If y... [more](#)

Monday, 03-01-2010

Proposed Stretch Energy Code

The purpose of the Stretch Energy Code is to provide a more energy efficient alternative to the base energy code applicable to the relevant sections... [more](#)

Tuesday, 02-23-2010

Newsletter

Code Enforcement 2010 January Report
 Code Enforcement 2009 December Report
 Code Enforcement 2009 November Report
 Code Enforcement 2009 October Report... [more](#)

Monday, 12-28-2009

Department of Inspectional Services

Department: &... [more](#)

Monday, 12-28-2009


Building Inspectors:

Green area: Building: Dennis L. Calvanese
 Complaint: Richard V. Olsson
 CI: Darcey A. Gardner
 Zoning: Jerry La Rose ... [more](#)

Page last updated: Monday, March 01, 2010 02:53 pm

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Springfield, Massachusetts


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Stretch Energy Code

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Find Inspectors

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Housing

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Department of Code Enforcement / Building Division

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 M-F 7:00 a.m. - 4:30 p.m.

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Home / Code Enforcement / Stretch Energy Code

Proposed Stretch Energy Code

The purpose of the Stretch Energy Code is to provide a more energy efficient alternative to the base energy code applicable to the relevant sections of the building code for both new construction and existing buildings. A municipality seeking to ensure that construction within its boundaries is designed and built above the current energy efficiency requirements.

This appendix may be adopted by any municipality in the commonwealth, by decision of its governing body. In a city having a Plan D or Plan E charter the governing body shall be the city manager and the city council, and in any other city the mayor and city council. In towns the governing body shall be the board of selectmen. In order to be adopted, the appendix must be considered at an appropriate municipal public hearing, subject to the municipality's existing public notice provisions. If adopted by a municipality this appendix rather than 780 CMR 13,34, 61, or 93, as applicable, shall govern. This code applies to residential and commercial buildings. Buildings not included in this scope shall comply with 780 CMR 13, 34, 61, or 93, as applicable.

This appendix shall regulate the design and construction of buildings for the effective use of energy. This appendix is intended to provide flexibility to permit the use of innovative approaches and techniques to achieve the effective use of energy. This appendix is not intended to abridge safety, health or environmental requirements contained in other applicable codes or ordinances.

For additional information, or to read the code in its entirety, please visit:
http://www.mass.gov/Eeops/docs/dps/inf/appendix_120_aa_jul09_09_final.pdf

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780 CMR Appendix 120 AA Stretch Energy Code

The Stretch Energy Code is the *International Energy Conservation Code (IECC) 2009* with amendments contained herein.

CHAPTER 1 - ADMINISTRATION

SECTION 101 - SCOPE AND GENERAL REQUIREMENTS

Remove sections 101.1, 101.2, and 101.3 and replace with:

101.1 Title. This code shall be known as the Massachusetts Stretch Energy Code and shall be cited as such. It is referred to herein as “this code.”

101.2 Scope. This code applies to residential and commercial buildings. Buildings not included in this scope shall comply with 780 CMR 13, 34, 61, or 93, as applicable.

101.3 Purpose and Intent.

The purpose of 780 CMR 120.AA is to provide a more energy efficient alternative to the base energy code applicable to the relevant sections of the building code for both new construction and existing buildings. A municipality seeking to ensure that construction within its boundaries is designed and built above the energy efficiency requirements of 780 CMR may mandate adherence to this appendix.

This appendix may be adopted by any municipality in the commonwealth, by decision of its governing body. In a city having a Plan D or Plan E charter the governing body shall be the city manager and the city council, and in any other city the mayor and city council. In towns the governing body shall be the board of selectmen. In order to be adopted, the appendix must be considered at an appropriate municipal public hearing, subject to the municipality's existing public notice provisions. If adopted by a municipality this appendix rather than 780 CMR 13, 34, 61, or 93, as applicable, shall govern.

This appendix shall regulate the design and construction of buildings for the effective use of energy. This appendix is intended to provide flexibility to permit the use of innovative approaches and techniques to achieve the effective use of energy. This appendix is not intended to abridge safety, health or environmental requirements contained in other applicable codes or ordinances.

Remove section 101.4.3 Exceptions and replace with:

Exceptions

1. Storm windows installed over existing fenestration.
2. Repairs to an existing sash and frame.
3. Existing ceiling, wall or floor cavities, of the building envelope, exposed or accessible during construction provided that any empty cavities are filled with insulation that meets or exceeds an *R* value of *R* - 3.5/inch.
4. Reroofing or residing over uninsulated roofs or walls where the sheathing is not exposed.
5. Replacement of existing doors that separate conditioned space from the exterior shall not require the installation of a vestibule or revolving door, provided, however, that an existing vestibule that separates a conditioned space from the exterior shall not be removed,
6. Alterations that replace less than 50 percent of the luminaires in a space, provided that such alterations do not increase the installed interior lighting power.
7. Alterations that replace only the bulb and ballast within the existing luminaires in a space provided that the alteration does not increase the installed interior lighting power.

Remove section 104.1 and replace with:

104.1 General. Construction or work for which a permit is required shall be subject to inspection by the code official or approved inspection agencies.

Remove section 104.5 and replace with:

104.5 Approved inspection agencies. The code official is authorized to require or accept reports of approved inspection agencies, provided such agencies satisfy the requirements as to qualifications and reliability.

Delete sections 107, 108 and 109

CHAPTER 2 – DEFINITIONS

Insert in section 202:

FENESTRATION PRODUCT, FIELD-FABRICATED is a fenestration product including an exterior glass door whose frame is made at the construction site of standard dimensional lumber or other materials that were not previously cut, or otherwise formed with the specific intention of being used to fabricate a fenestration product or exterior door. Field fabricated does not include site-built fenestration with a label certificate or products required to have temporary or permanent labels.

FENESTRATION PRODUCT, SITE-BUILT is fenestration designed to be field-glazed or field assembled units using specific factory cut or otherwise factory formed framing and glazing units. Examples of site-built fenestration include storefront systems, curtain walls, and atrium roof systems.

FURNACE ELECTRICITY RATIO. The ratio of furnace electricity use to total furnace energy computed as ratio = $(3.412 * EAE) / (1000 * EF + 3.412 * EAE)$, where EAE (average annual auxiliary electrical consumption) and EF (average annual fuel energy consumption) are defined in Appendix N to subpart B of part 430 of title 10 of the Code of Federal Regulations and EF is expressed in millions of Btu's per year.

ON-SITE RENEWABLE ENERGY. Includes solar photovoltaic; active solar thermal that employs collection panels, heat transfer mechanical components and a defined heat storage system; wind; small hydro; tidal; wave energy; geothermal (core earth); biomass energy systems; landfill gas and bio-fuel based electrical production. Onsite energy shall be generated on or adjacent to the project site and shall not be delivered to the project through the utility service.

CHAPTER 3 – CLIMATE ZONES

Delete section 301 and replace with:

Climate Zone 5 and moisture regime A (Moist) shall be used in determining the applicable requirements from Chapters 4 and 5 for locations in Massachusetts.

Delete Chapter 4 and replace with:

CHAPTER 4 – ADVANCED RESIDENTIAL ENERGY EFFICIENCY

401.1 Scope. This chapter applies to residential buildings.

401.2 New construction. New low-rise (three stories or less) residential buildings including townhouses shall require a HERS (Home Energy Rating System) index rating as verified by a RESNET (Residential Energy Services Network) certified HERS rater.

- For units equal to or greater than 3,000 sq ft in conditioned floor space, a HERS rating of 65 or less is required.
- For units less than 3,000 sq ft, a HERS rating of 70 or less is required.
- In addition, all new construction shall demonstrate compliance with the Energy Star Qualified Homes Thermal Bypass Inspection Checklist¹.

401.3 Prescriptive option for residential additions. Additions to an existing building, building system or portion thereof shall conform to the most recent Energy Star for Homes Prescriptive Builders Option Package (BOP), except for heating and cooling equipment and appliances, and shall demonstrate compliance with:

- The Energy Star Qualified Homes Thermal Bypass Inspection Checklist.
- Envelope insulation requirements that meet or exceed IECC 2009 requirements (Chapter 4, Section 402) for climate zone 5.

401.4 Performance option for residential additions. The performance approach and HERS ratings of 401.2 may be followed in lieu of the prescriptive requirements of 401.3

401.5 Prescriptive option for alterations, renovations or repairs. Alterations, renovations or repairs that involve accessing the building envelope shall require the affected portion of the envelope to comply with 401.3. Envelope insulation shall meet or exceed IECC 2009 requirements (Chapter 4, Section 402) for climate zone 5, or fully fill existing cavities with insulating material which meets or exceeds an R value of R 3.5/inch.

401.6 Performance option for alternations, renovations or repairs. In all cases of alternations, renovations or repairs the performance approach of 401.2 may be followed in lieu of the prescriptive requirements of 401.5 with the following HERS rating requirements:

- For units equal to or greater than 2,000 sq ft in conditioned floor space, a HERS rating of 80 or less is required.
- For units less than 2,000 sq ft, a HERS rating of 85 or less is required.
- Compliance with the Energy Star Qualified Homes Thermal Bypass Inspection Checklist.

Change Chapter 5 title to:

CHAPTER 5 – ADVANCED COMMERCIAL ENERGY EFFICIENCY

Remove section 501.1 and 501.2 and replace with:

501.1 Scope. The requirements contained in this chapter are applicable to new construction of commercial buildings, or portions of commercial buildings.

Exceptions:

1. Commercial buildings less than 5,000 sq. ft.
2. Commercial buildings from 5,000 to 40,000 sq. ft. in area with these uses:
 - Supermarkets
 - Warehouses
 - Laboratories

¹ http://www.energystar.gov/ia/partners/bldrs_tenders_raters/downloads/Thermal_Bypass_Inspection_Checklist.pdf

- A building of specialized use by variance to this appendix through appeal to the BBRs.

501.1.1 Buildings greater than 100,000 sq. ft. Buildings greater than 100,000 sq. ft., and additions to such buildings greater than or equal to 30% of the existing conditioned floor area, shall be designed to achieve energy use per square foot equal to at least 20% below the energy requirements of *ASHRAE/IESNA Standard 90.1-2007, Energy Standard for Buildings Except for Low-Rise Residential Buildings*, Appendix G, measured by industry-accepted energy modeling.

501.1.2 Special energy use buildings. Buildings greater than 40,000 sq. ft. in area, and additions to such buildings greater than or equal to 30% of the existing conditioned floor area with these uses:

- Supermarkets
- Warehouses
- Laboratories

shall be designed to comply with the performance requirements of 501.1.1.

501.1.3 Performance option for buildings from 5,000 to 100,000 sq. ft. Buildings between 5,000 sq. ft. and 100,000 sq. ft. shall comply with the performance requirements of 501.1.1, or the prescriptive option 501.1.4.

501.1.4 Prescriptive option for Buildings from 5,000 to 100,000 sq. ft. The requirements contained in section 501.1.4.1 and beyond of this chapter are applicable to buildings from 5,000 to 100,000 sq. ft. and additions to such buildings greater than or equal to 30% of the existing conditioned floor area where the addition has its own heating system.

501.1.4.1 Application. The *commercial building* project shall comply with the requirements in Sections 502 (Building envelope requirements), 503 (Building mechanical systems), 504 (Service water heating), 505 (Electrical power and lighting systems), and 507 (Advanced Prescriptive Options) in its entirety.

Compliance with section 507 requires complying with any ONE of the following prescriptive options:

- 507.2.1 Efficient Mechanical Equipment
- 507.2.2 Reduced Lighting Power Density
- 507.2.3 On-Site Supply of Renewable Energy

Compliance with section 507 does not remove the requirement to comply with any other mandatory requirements in this code.

SECTION 502 - BUILDING ENVELOPE REQUIREMENTS

Delete from section 502.1.1, the last sentence:

Buildings with a vertical fenestration area or skylight area that exceeds that allowed in Table 502.3 shall comply with the building envelope provisions of ASHRAE/IESNA90.1.

Remove Table 502.1.2, Table 502.2(1) and Table 502.2(2) and replace with:

TABLE 502.1.2 - BUILDING ENVELOPE REQUIREMENTS OPAQUE ELEMENT, MAXIMUM U-FACTORS

Roofs	All Other	Group R
Insulation entirely above deck	U - 0.039	U - 0.039

Metal buildings (with R-5 thermal blocks)	U - 0.049	U - 0.049
Attic and other	U - 0.027	U - 0.027
Walls, Above Grade		
Mass, exterior insulation	U- 0.080	U- 0.071
Mass, interior insulation	U- 0.085	U- 0.085
Metal building	U- 0.061	U- 0.061
Metal framed	U- 0.064	U- 0.057
Wood framed and other	U- 0.051	U- 0.051
Walls, Below Grade^a		
Mass, exterior insulation	C- 0.119	C- 0.119
Mass, interior insulation	C- 0.063	C- 0.063
Floors		
Mass	U- 0.074	U- 0.064
Metal Joist	U- 0.033	U- 0.033
Wood Joist/Framing	U- 0.033	U- 0.033
Slab-on-Grade Floors		
Unheated slabs	F- 0.540	F- 0.520
Heated slabs	F- 0.580	F- 0.580
Opaque Doors		
Swinging	U- 0.37	U- 0.37
Roll-up or sliding	U- 0.50	U- 0.50

For SI: 1 inch = 25.4 mm.

ci – Continuous Insulation

a. When heated slabs are placed below grade, below grade walls must meet the F-factor requirements for perimeter insulation according to the heated slab-on-grade construction.

**TABLE 502.2
BUILDING ENVELOPE REQUIREMENTS - OPAQUE ASSEMBLIES**

Roofs	All Other	Group R	Note: IECC 2009 equivalent
Insulation entirely above deck	R-25 ci	R-25 ci	Zone 7
Metal buildings (with R-5 thermal blocks ^{a,b})	R-13 + R-19	R-19 + R-10	Zone 7
Attic and other	R-38	R-38	Zone 2-7
Walls, Above Grade			
Mass, exterior insulation	R-11.4 ci	R-13.3 ci	Zone 5
Mass, interior insulation	R-13	R-13	N/A
Metal building ^c	R-13 + R-5.6 ci	R-13 + R-5.6 ci	Zone 5-6
Metal framed	R-13 + R-7.5 ci	R-13 + R-7.5 ci	Zone 5-6
Wood framed and other	R-13 + R-7.5	R-13 + R-7.5	Zone 6
Walls, Below Grade^d			
Mass, exterior insulation	R-7.5 ci	R-7.5 ci	Zone 5-6
Mass, interior insulation	R-19	R-19	N/A
Floors			
Mass	R-10 ci	R-12.5 ci	Zone 5
Metal Joist	R-30	R-30	Zone 4-8
Wood Joist/Framing	R-30	R-30	Zone 4-8
Slab-on-Grade Floors			

Unheated slabs	R-10 for 24 in. below	R-15 for 24 in. below	Zone 6
Heated slabs	R-15 for 36 in. + R-5 ci below	R-15 for 36 in. + R-5 ci below	NBI Core Performance Values
Opaque Doors			
Swinging	U – 0.37	U – 0.37	
Roll-up or sliding	R – 4.75	R – 4.75	

For SI: 1 inch = 25.4 mm.
ci – Continuous Insulation
NR – No Requirement

- a. Thermal blocks are a minimum R-5 of rigid insulation, which extends 1-inch beyond the width of the purlin on each side, perpendicular to the purlin.
- b. The first R-value is for faced fiberglass insulation batts draped over purlins. The second R-value is for unfaced fiberglass insulation batts installed parallel to the purlins. A minimum R-3.5 thermal spacer block is placed above the purlin/batt, and the roof deck is secured to the purlins. Reference: ASHRAE/IESNA 90.1 Table A2.3 including Addendum “G”
- c. The first R-value is for faced fiberglass insulation batts installed perpendicular and compressed between the metal wall panels and the steel framing. the second *rated R-value of insulation* is for insulation installed from the inside, covering the girts. Reference: ASHRAE/IESNA 90.1 Table A3.2 Appendix “G”
- d. When heated slabs are placed below grade, below grade walls must meet the exterior insulation requirements for perimeter insulation according to the heated slab-on-grade construction.

Remove section 502.3.2 (including Table 502.3) and replace with:

502.3.2 Maximum U-factor and SHGC. For vertical fenestration, the maximum *U-factor* and solar heat gain coefficient (SHGC) shall be as specified in Table 502.3, which is uniformly set at 0.40. For skylights, the limit is set at 3% of roof area, but can be expanded to 5% of roof area in conjunction with automatic daylighting controls. In all cases, the maximum *U-factor* and solar heat gain coefficient (SHGC) shall be as specified in Table 502.3.

**TABLE 502.3
BUILDING ENVELOPE REQUIREMENTS: FENESTRATION**

	All
Framing materials other than metal with or without metal reinforcement or cladding	
<i>U-Factor</i>	0.35
Metal framing with or without thermal break	
Curtain Wall/Storefront <i>U-Factor</i>	0.42
Entrance Door <i>U-Factor</i>	0.80
All Other <i>U-Factor</i> ^a	0.45
SHGC-All Frame Types	
SHGC	0.40

Skylights (3% maximum, or 5% maximum with automatic daylighting controls ^b)	
<i>U</i> -Factor	0.45
SHGC	0.40

- a. All other includes operable windows, fixed windows and doors other than entrance doors.
- b. Automatic daylighting controls shall meet the requirements of Section 505.2.2.1.3

502.4 Air leakage (Mandatory).

Remove section 502.4.1 and 502.4.2 and replace with:

502.4.0 Air Barriers. The building envelope shall be designed and constructed with a continuous air barrier to control air leakage into, or out of the conditioned space. An air barrier system shall also be provided for interior separations between conditioned space and space designed to maintain temperature or humidity levels which differ from those in the conditioned space by more than 50% of the difference between the conditioned space and design ambient conditions.

The air barrier shall have the following characteristics:

1. It must be continuous, with all joints made airtight.
2. Materials used for the air barrier system shall have an air permeability not to exceed 0.004 cfm/ft² under a pressure differential of 0.3 in. water (1.57psf) (75 Pa) when tested in accordance with ASTM E 2178. Air barrier materials shall be taped or sealed in accordance with the manufacturer's instructions.
3. It shall be capable of withstanding positive and negative combined design wind, fan and stack pressures on the envelope without damage or displacement, and shall transfer the load to the structure. It shall not displace adjacent materials under full load.
4. Air barrier materials shall be maintainable, or, if inaccessible, shall meet the durability requirements for the service life of the envelope assembly.
5. The air barrier material of an envelope assembly shall be joined and sealed in a flexible manner to the air barrier material of adjacent assemblies, allowing for the relative movement of assemblies due to thermal and moisture variations and creep.

Connections shall be made between:

- a. joints around *fenestration* and *door* frames
- b. junctions between *walls* and foundations, between *walls* at building corners, between *walls* and structural *floors* or *roofs*, and between *walls* and *roof* or *wall* panels
- c. openings at penetrations of utility services through *roofs*, *walls*, and *floors*
- d. site-built *fenestration* and *doors*
- e. building assemblies used as ducts or plenums
- f. joints, seams, and penetrations of vapor retarders
- g. all other openings in the *building envelope*

502.4.0.1 Air Barrier Penetrations. All penetrations of the air barrier and paths of air infiltration/exfiltration shall be made air tight.

502.4.1 Window and door assemblies. The air leakage of window, skylight and door assemblies that are part of the building envelope shall be determined in accordance with AAMA/WDMA/CSA 101/I.S.2/A440, or NFRC 400 by an accredited, independent laboratory, and *labeled* and certified by the manufacturer. Window and skylight air leakage shall not exceed 0.2 cfm/ft² at 1.57 pounds per square foot (psf) (75Pa), or 0.3 cfm/ft² at 6.24 psf (300 Pa). Door assembly air leakage shall not exceed 0.3 cfm/ft² for all other products at 1.57 psf (75Pa).

Exceptions:

- a. Site-constructed windows and doors that are sealed in accordance with Section 502.4.8.
- b. Commercial entrance doors covered by section 502.4
- c. Garage doors shall be permitted to use air leakage determined by test at standard test conditions in accordance with ANSI/DASMA 105.
- d. Doors and Access Openings to Shafts, Chutes, Stairwells, and Elevator Lobbies. These doors and access openings shall either meet the requirements of 502.4.3 or shall be equipped with weather seals, except weatherseals on elevator lobby doors are not required when a smoke control system is installed.

502.4.2 Curtain wall, storefront glazing and commercial entrance doors. Curtain wall, *storefront* glazing and commercial-glazed swinging entrance doors and revolving doors shall be tested for air leakage at a pressure of at least 1.57 pounds per square foot (psf) (75 Pa) in accordance with ASTM E 283. For curtain walls and *storefront* glazing, the maximum air leakage rate shall be 0.06 cubic foot per minute per square foot (cfm/ft²) (1.1 m³/h × m²) of fenestration area. For commercial glazed swinging entrance doors and revolving doors, the maximum air leakage rate shall be 1.00 cfm/ft² (18.3 m³/h × m²) of door area when tested in accordance with ASTM E 283.

Remove section 502.4.5 and replace with:

502.4.5 Outdoor air intakes and exhaust openings. Stair and elevator shaft vents and other outdoor air intakes and exhaust openings integral to the building envelope shall be equipped with not less than a Class I motorized, leakage-rated damper with a maximum leakage rate of 4 cfm per square foot (6.8 L/s · C m²) at 1.0 inch water gauge (w.g.) (1250 Pa) when tested in accordance with AMCA 500D. These air tight, operable dampers shall be installed when the air barrier is penetrated by:

1. Fixed open louvers such as in elevator shafts and machine rooms.
2. Mechanical system components which allow infiltration or exfiltration of air when the systems are inactive, such as atrium smoke exhaust systems, elevator shaft smoke relief openings, and other similar elements.

Such dampers shall be set in the closed position and automatically open upon:

1. the activation of any fire alarm initiating device of the building's fire alarm system;
2. the interruption of power to the damper.

Exception: Gravity (nonmotorized) dampers are permitted to be used in buildings less than three stories in height above grade.

Remove section 502.4.7 and replace with:

502.4.7 Vestibules. Building entrances that separate *conditioned space* from the exterior shall be protected with an enclosed vestibule, with all *doors* opening into and out of the vestibule equipped with self-closing devices. Vestibules shall be designed so that in passing through the vestibule it is not necessary for the interior and exterior *doors* to open at the same time. Interior and exterior *doors* shall have a minimum distance between them of not less than 7 ft when in the closed position. The exterior envelope of conditioned vestibules shall comply with the requirements for a conditioned space. The interior and exterior envelope of unconditioned vestibules shall comply with the requirements for a semi-heated space.

Exceptions:

- a. *Building entrances* with revolving *doors*.
- b. *Doors* not intended to be used as a *building entrance*.
- c. *Doors* opening directly from a *dwelling unit*.
- d. *Doors* that open directly from a *space* that is less than 3000 ft² in area and is separate from the *building entrance*.
- e. *Doors* used primarily to facilitate vehicular movement or material handling and adjacent personnel doors.

Add section 502.5 Vapor retarders.

502.5 Vapor retarders. Class I or II vapor retarders are required on the interior side of walls.

Exceptions:

- 1. Basement walls.
- 2. Below grade portion of any wall.
- 3. Construction where moisture or its freezing will not damage the materials.

502.5.1 Class III Vapor retarders. Class III vapor retarders shall be permitted where any one of the conditions in Table 502.5.1 are met.

TABLE 502.5.1 - CLASS III VAPOR RETARDERS

Climate Zone	Class III vapor retarders permitted for:
5	Vented cladding over OSB Vented cladding over Plywood Vented cladding over Fiberboard Vented cladding over Gypsum Insulated sheathing with R-value \geq R5 over 2x4 wall Insulated sheathing with R-value \geq R7.5 over 2x6 wall

502.5.2 Material vapor retarder class. The vapor retarder class shall be based on the manufacturer's certified testing or a tested assembly. The following shall be deemed to meet the class specified:

- Class I: Sheet polyethylene, non-perforated aluminum foil
- Class II: Kraft faced fiberglass batts or low perm paint

(paint with $0.1 < \text{perm} \leq 1.0$)
Class III: Latex or enamel paint

SECTION 503 - BUILDING MECHANICAL SYSTEMS

Insert at end of section 503.1:

NOTE: Compliance path a. (Efficient Mechanical Equipment) in section 507 is not available for equipment installed according to the minimum performance values outlined in section 503.2.3. In this case, compliance can be met with one of the following paths:

- b. 507.2.2 Reduced Lighting Power Density
- c. 507.2.3 On-Site Supply of Renewable Energy

Replace section 503.2.1 with:

503.2.1 Calculation of heating and cooling loads. Design loads shall be determined in accordance with the procedures described in the ASHRAE/ACCA Standard 183. The design loads shall include an accurate representation of the building envelope, lighting, ventilation and occupancy loads based on the specific design characteristics of the project. Heating and cooling loads shall be adjusted to account for load reductions that are achieved when energy recovery systems are utilized in the HVAC system in accordance with the ASHRAE *HVAC Systems and Equipment Handbook*. Alternatively, design loads shall be determined by an *approved* equivalent computation procedure, using the design parameters specified in IECC 2009 Chapter 3.

Insert at end of section 503.2.5.1, Exceptions:

- 5. Building spaces where CO₂ Sensors are inappropriate measures for ventilation needs because of ventilation needs other than occupant requirements.
- 6. Building spaces where the primary ventilation needs are for process loads.

Replace sections 503.2.9 – 503.2.9.3 with:

503.2.9 Mechanical systems commissioning and completion requirements.

503.2.9.1 System commissioning. Commissioning is a process that verifies and documents that the selected building systems have been designed, installed, and function according to the owner's project requirements and construction documents. Drawing notes shall require commissioning and completion requirements in accordance with this section. Drawing notes may refer to specifications for further requirements. Copies of all documentation shall be given to the owner. The building official may request commissioning documentation for review purposes. At the time of plan submittal, the building jurisdiction shall be provided, by the submittal authority, a letter of intent to commission the building in accordance with this code.

503.2.9.1.1 Commissioning plan. A commissioning plan shall include as a minimum the following items:

- 1. A detailed explanation of the original owner's project requirements,

2. A narrative describing the activities that will be accomplished during each phase of commissioning, including guidance on who accomplishes the activities and how they are completed,
3. Equipment and systems to be tested, including the extent of tests,
4. Functions to be tested (for example calibration, economizer control, etc.),
5. Conditions under which the test shall be performed (for example winter and summer design conditions, full outside air, etc.), and
6. Measurable criteria for acceptable performance.

503.2.9.1.2 Systems adjusting and balancing. All HVAC systems shall be balanced in accordance with generally accepted engineering standards. Air and water flow rates shall be measured and adjusted to deliver final flow rates within 10% of design rates. Test and balance activities shall include as a minimum the following items:

1. Air systems balancing. Each supply air outlet and zone terminal device shall be equipped with means for air balancing in accordance with the requirements of Chapter 6 of the International Mechanical Code. Discharge dampers are prohibited on constant volume fans and variable volume fans with motors 10 hp (18.6 kW) and larger. Air systems shall be balanced in a manner to first minimize throttling losses then, for fans with system power of greater than 1 hp, fan speed shall be adjusted to meet design flow conditions.

Exception: Fans with fan motors of 1 hp or less.

2. Hydronic systems balancing: Individual hydronic heating and cooling coils shall be equipped with means for balancing and pressure test connections. Hydronic systems shall be proportionately balanced in a manner to first minimize throttling losses, then the pump impeller shall be trimmed or pump speed shall be adjusted to meet design flow conditions. Each hydronic system shall have either the ability to measure pressure across the pump, or test ports at each side of each pump.

Exceptions:

1. Pumps with pump motors of 5 hp or less.
2. When throttling results in no greater than 5% of the nameplate horsepower draw above that required if the impeller were trimmed.

503.2.9.1.3 Functional performance testing

503.2.9.1.3.1 Equipment functional performance testing. Equipment functional performance testing shall demonstrate the correct installation and operation of components, systems, and system-to-system interfacing relationships in accordance with approved plans and specifications. This demonstration is to prove the operation, function, and maintenance serviceability for each of the Commissioned systems. Testing shall include all modes of operation, including:

1. All modes as described in the Sequence of Operation,
2. Redundant or automatic back-up mode,

3. Performance of alarms, and
4. Mode of operation upon a loss of power and restored power.

Exception: Unitary or packaged HVAC equipment listed in Tables 503.2.3 (1) through (3) that do not require supply air economizers.

503.2.9.1.3.2 Controls functional performance testing. HVAC control systems shall be tested to document that control devices, components, equipment, and systems are calibrated, adjusted and operate in accordance with approved plans and specifications. Sequences of operation shall be functionally tested to document they operate in accordance with approved plans and specifications.

503.2.9.1.4 Preliminary commissioning report. A preliminary report of commissioning test procedures and results shall be completed and provided to the Owner. The report shall be identified as "Preliminary Commissioning Report" and shall identify:

1. Itemization of deficiencies found during testing required by this section which have not been corrected at the time of report preparation and the anticipated date of correction.
2. Deferred tests which cannot be performed at the time of report preparation due to climatic conditions.
3. Climatic conditions required for performance of the deferred tests, and the anticipated date of each deferred test.

503.2.9.2 Acceptance. Buildings, or portions thereof, required by this code to comply with this section shall not be issued a certificate of occupancy until such time that the building official has received a letter of transmittal from the building owner that states they have received the Preliminary Commissioning Report as required by Section 503.2.9.1.4. At the request of the building official, a copy of the Preliminary Commissioning Report shall be made available for review.

503.2.9.3 Completion requirements. The construction documents shall require that within 90 days after the date of certificate of occupancy, the documents described in this section be provided to the building owner.

503.2.9.3.1 Drawings. Construction documents shall include as a minimum the location and performance data on each piece of equipment.

503.2.9.3.2 Manuals. An operating manual and a maintenance manual shall be in accordance with industry-accepted standards and shall include, at a minimum, the following:

1. Submittal data stating equipment size and selected options for each piece of equipment requiring maintenance.
2. Manufacturer's operation manuals and maintenance manuals for each piece of equipment requiring maintenance, except equipment not furnished as part of the project. Required routine maintenance actions shall be clearly identified.
3. Names and addresses of at least one service agency.

4. HVAC controls system maintenance and calibration information, including wiring diagrams, schematics, and control sequence descriptions. Desired or field-determined setpoints shall be permanently recorded on control drawings at control devices or, for digital control systems, in programming comments.
5. A complete narrative of how each system is intended to operate, including suggested setpoints.

503.2.9.3.3 System balancing report. A written report describing the activities and measurements completed in accordance with Section 503.2.9.1.2

503.2.9.3.4 Final Commissioning Report. A complete report of test procedures and results identified as “Final Commissioning Report” shall include:

1. Results of all Functional Performance Tests.
2. Disposition of all deficiencies found during testing, including details of corrective measures used or proposed.
3. All Functional Performance Test procedures used during the commissioning process including measurable criteria for test acceptance, provided herein for repeatability.

Exception: Deferred tests which cannot be performed at the time of report preparation due to climatic conditions.

SECTION 505 - ELECTRICAL POWER AND LIGHTING SYSTEMS (Mandatory)

Replace sections 505.2.2.1 and 505.2.2.2 with:

505.2.2.1 Automatic lighting controls. All commercial buildings shall be equipped with automatic control devices to shut off lighting in compliance with one of the following automatic control technologies:

1. Section 505.2.2.1.1 Occupancy Sensors
2. Section 505.2.2.1.2 Time Clock Controls
3. Section 505.2.2.1.3 Automatic Daylighting Controls

505.2.2.1.1 Occupancy sensors Occupancy sensors must be installed in all classrooms, conference/meeting rooms, employee lunch and break rooms, private offices, restrooms, storage rooms and janitorial closets, and other spaces 300 sf. or less enclosed by ceiling height partitions. These automatic control devices shall be installed to automatically turn off lights within 30 minutes of all occupants leaving the space, except spaces with multi-scene control.

505.2.2.1.2 Time Clock Controls In areas not controlled by occupancy sensors, automatic time switch control devices shall be used. It shall incorporate an override switching device that:

1. Is readily accessible.
2. Is located so that a person using the device can see the lights or the area controlled by that switch, or so that the area being lit is annunciated.
3. Is manually operated.

4. Allows the lighting to remain on for no more than 4 hours when an override is initiated.
5. Controls an area not exceeding 5,000 square feet (465 m²).

Exceptions:

1. In malls and arcades, auditoriums, single-tenant retail spaces, industrial facilities and arenas, where captive-key override is utilized, override time may exceed 2 hours.
2. In malls and arcades, auditoriums, single-tenant retail spaces, industrial facilities and arenas, the area controlled may not exceed 20,000 square feet (1860 m²).

505.2.2.1.3 Automatic daylighting controls. Automatic controls installed in day lit zones must control lights in the day lit areas separately from the non-day lit areas. Controls for calibration adjustments to the lighting control device shall be readily accessible to authorized personnel. Each daylight control zone shall not exceed 2,500 square feet. Automatic daylighting controls must incorporate an automatic shut-off ability based on time or occupancy in addition to lighting power reduction controls.

Controls will automatically reduce lighting power in response to available daylight by either one of the following methods:

- 1. Continuous dimming** using dimming ballasts and daylight-sensing automatic controls that are capable of reducing the power of general lighting in the day lit zone continuously to less than 35% of rated power at maximum light output.
- 2. Stepped Dimming** using multi-level switching and daylight-sensing controls that are capable of reducing lighting power automatically. The system should provide at least two control channels per zone and be installed in a manner such that at least one control step shall reduce power of general lighting in the daylight zone by 30% to 50% of rated power and another control step that reduces lighting power by 65% to 100%. Stepped dimming control is not appropriate in continuously occupied areas with ceiling heights of 14 feet or lower

Exception: Daylight spaces enclosed by walls or ceiling height partitions and containing 2 or fewer luminaire are not required to have a separate switch for general area lighting.

Retain section 505.2.2.3 Daylight zone control.

Replace section 505.2.3 with:

505.2.3 Additional Controls for specific uses

- a. Display/Accent Lighting—display or accent lighting shall have a separate control device.
- b. Case Lighting—lighting in cases used for display purposes shall have a separate control device.

- c. Hotel and Motel Guest Room Lighting—hotel and motel guest rooms and guest suites shall have a master control device at the main room entry that controls all permanently installed luminaires and switched receptacles.
- d. Task Lighting—supplemental task lighting, including permanently installed undershelf or undercabinet lighting, shall have a control device integral to the luminaires or be controlled by a wall-mounted control device provided the control device is readily accessible and located so that the occupant can see the controlled lighting.
- e. Nonvisual Lighting—lighting for nonvisual applications, such as plant growth and food warming, shall have a separate control device.
- f. Demonstration Lighting—lighting equipment that is for sale or for demonstrations in lighting education shall have a separate control device.

Exceptions: a., b. and d. Where LED lighting is used no additional control is required.

Insert at end of section 505.5.2:

NOTE: Compliance path b. (Reduced Lighting Power Density) in section 507 is not available for lighting installed according to the values in table 505.5.2. In this case, compliance can be met with one of the following paths:

- a. 507.2.1 Efficient Mechanical Equipment
- c. 507.2.3 On-Site Supply of Renewable Energy

Replace, but retain notes and exception, Table 505.5.2 with:

TABLE 505.5.2 - INTERIOR LIGHTING POWER ALLOWANCES

LIGHTING POWER DENSITY		
Building Area Type ^a	Whole Building	Space by Space
	(W/ft ²)	
Active Storage		0.8
Atrium – First Three Floors		0.6
Atrium – Each Additional Floor		0.2
Classroom/lecture/training		1.3
Conference/Meeting/Multipurpose		1.3
Corridor/Transition		0.5
Dressing/Locker/Fitting Room		0.6
Electrical/Mechanical		1.5
Food Preparation		1.2
Inactive Storage		0.3
Laboratory		1.4
Lobby		1.1
Restroom		0.8
Stairway		0.6
Automotive Facility	0.9	
Automotive – Service Repair		0.7
Convention Center	1.2	
Exhibit Space		1.3
Audience/Seating Area		0.9

Courthouse	1.2	
Audience/Seating Area		0.9
Courtroom		1.9
Confinement Cells		0.9
Judges Chambers		1.3
Dining: Bar Lounge/Leisure	1.3	
Lounge/Leisure Dining		1.4
Dining: Cafeteria/Fast Food	1.4	
Dining: Family	1.6	
Dining		1.4
Kitchen		1.2
Dormitory	1.0	
Living Quarters		1.1
Bedroom		0.5
Study Hall		1.4
Exercise Center	1.0	
Dressing/Locker/Fitting Room		0.6
Audience/Seating Area		0.3
Exercise Area		0.9
Exercise Area/Gymnasium		1.4
Gymnasium	1.1	
Dressing/Locker/Fitting Room		0.6
Audience/Seating Area		0.4
Playing Area		1.4
Exercise Area		0.9
Healthcare Clinic	1.0	
Corridors w/patient waiting, exam		1.0
Exam/Treatment		1.5
Emergency		2.7
Public & Staff Lounge		0.8
Hospital/Medical supplies		1.4
Hospital - Nursery		0.6
Nurse station		1.0
Physical therapy		0.9
Patient Room		0.7
Pharmacy		1.2
Hospital/Radiology		0.4
Operating Room		2.2
Recovery		0.8
Active storage		0.9
Laundry-Washing		0.6
Hospital	1.2	
Hotel	1.0	
Dining Area		1.3
Guest quarters		1.1
Reception/Waiting		2.5
Lobby		1.1
Library	1.3	
Library-Audio Visual		0.7

Stacks		1.7
Card File & Cataloguing		1.1
Reading Area		1.2
Manufacturing Facility	1.3	
Low bay (< 25 ft Floor to Ceiling Height)		1.2
High bay (>25 ft Floor to Ceiling Height)		1.7
Detailed Manufacturing		2.1
Equipment Room		1.2
Control Room		0.5
Motel	1.0	
Dining Area		1.2
Guest quarters		1.1
Reception/Waiting		2.1
Motion Picture Theater	1.2	
Audience/Seating Area		1.2
Lobby		1.0
Multi-Family	0.7	
Museum	1.1	
Active Storage		0.8
General exhibition		1.0
Restoration		1.7
Bank/Office – banking activity area		1.5
Office	0.9	
Enclosed		1.0
Open Plan		1.0
Parking Garage	0.3	
Penitentiary	1.0	
Performing Arts Theater	1.6	
Audience/Seating Area		2.6
Lobby		3.3
Dressing/Locker/Fitting Room		1.1
Police Stations	1.0	
Fire Stations	0.8	
Fire Station Engine Room		0.8
Sleeping Quarters		0.3
Audience/Seating Area		0.8
Police Station Laboratory		1.4
Post Office	1.1	
Sorting Area		1.2
Lobby		1.0
Religious Buildings	1.3	
Lobby		1.7
Worship/Pulpit/Choir		2.4
Retail^b	1.3	
Department Store Sales Area		1.3
Specialty Store Sales Area		1.8
Fine Merchandise Sales Area		2.9
Supermarket Sales Area		1.3
Personal Services Sales Area		1.3

Mass Merchandising Sales Area		1.3
Mall Concourse		1.7
School/University	1.2	
Classroom		1.3
Audience		0.7
Dining		1.1
Office		1.1
Corridor		0.5
Storage		0.5
Laboratory		1.1
Sports Arena	1.1	
Ring Sports Arena		2.7
Court Sports Arena		2.3
Indoor Playing Field Arena		1.4
Town Hall	1.1	
Transportation	1.0	
Dining Area		2.1
Baggage Area		1.0
Airport - Concourse		0.6
Terminal - Ticket Counter		1.5
Reception/Waiting		0.5
Warehouse	0.8	
Fine Material		1.4
Medium/Bulky Material		0.9
Workshop	1.4	

Replace section 506 with:

SECTION 506 – TOTAL BUILDING PERFORMANCE

As referenced in section 501.1, buildings establishing compliance with this appendix through total building performance shall be designed to achieve energy use per square foot equal to at least 20% below the energy requirements of *ASHRAE/IESNA Standard 90.1-2007, Energy Standard for Buildings Except for Low-Rise Residential Buildings*, Appendix G, measured by industry-accepted energy modeling.

Add Section 507:

SECTION 507 - ALTERNATIVE PRESCRIPTIVE COMPLIANCE PACKAGES

507.1 Requirements. Buildings complying with the prescriptive option of section 501.4.1 shall meet the requirements of any one of the following sections:

- a. 507.2.1 Efficient Mechanical Equipment
- b. 507.2.2 Reduced Lighting Power Density
- c. 507.2.3 On-Site Supply of Renewable Energy

507.2.1 Efficient Mechanical Equipment

This mechanical alternative compliance option is intended to allow the builder to meet the requirements of section 507 by choosing to install efficient mechanical equipment.

This section does not replace the requirements in section 503, but is one of several optional compliance packages.

Mechanical equipment choices that fulfill requirements for section 507.2.1 shall comply with the following:

- a. Package unitary equipment shall meet the minimum efficiency requirements in Tables 507.2.1(1) and 507.2.1(2)
- b. Package Terminal Air Conditioners and Heat Pumps shall meet the minimum efficiency requirements in Table 507.2.1(3)
- c. Warm air furnaces and combination warm air furnaces / air conditioning units shall meet the minimum efficiency requirements in Table 507.2.1(4)
- d. Boilers shall meet the minimum efficiency requirements in Table 507.2.1(5)
- e. Electric chillers shall meet the energy efficiency requirements in Table 507.2.1(6)
- f. Absorption chillers shall meet the minimum efficiency requirements in Table 507.2.1(7)

**TABLE 507.2.1(1)
UNITARY AIR CONDITIONERS AND CONDENSING UNITS,
ELECTRICALLY OPERATED, EFFICIENCY REQUIREMENTS**

Equipment Type	Size Category	Subcategory Or Rating Condition	Minimum Efficiency^a
Air conditioners, Air cooled	< 65,000 Btu/h	Split system	15.0 SEER 12.5 EER
		Single package	15.0 SEER 12.0 EER
	≥ 65,000 Btu/h and < 135,000 Btu/h	Split system and single package	11.5 EER ^b 11.9 IPLV ^b
	≥ 135,000 Btu/h and < 240,000 Btu/h	Split system and single package	11.5 EER ^b 11.9 IPLV ^b
	≥ 240,000 Btu/h and < 760,000 Btu/h	Split system and single package	10.5 EER ^b 10.9 IPLV ^b
	≥ 760,000 Btu/h		9.7 EER ^b 11.0 IPLV ^b
Air conditioners, Water and evaporatively cooled		Split system and single package	14.0 EER

For SI: 1 British thermal unit per hour = 0.2931 W.

a. IPLVs are only applicable to equipment with capacity modulation.

b. Deduct 0.2 from the required EERs and IPLVs for units with a heating section other than electric resistance heat.

TABLE 507.2.1(2)
UNITARY AND APPLIED HEAT PUMPS, ELECTRICALLY
OPERATED, EFFICIENCY REQUIREMENTS

Equipment Type	Size Category	Subcategory Or Rating Condition	Minimum Efficiency ^a
Air cooled (Cooling mode)	< 65,000 Btu/h	Split system	15.0 SEER 12.5 EER
		Single package	15.0 SEER 12.0 EER
	≥ 65,000 Btu/h and < 135,000 Btu/h	Split system and single package	11.5 EER ^b 11.9 IPLV ^b
	≥ 135,000 Btu/h and < 240,000 Btu/h	Split system and single package	11.5 EER ^b 11.9 IPLV ^b
	≥ 240,000 Btu/h	Split system and single package	10.5 EER ^b 10.9 IPLV ^b
Water source (Cooling mode)	< 135,000 Btu/h	85°F entering water	14.0 EER
Air cooled (Heating mode)	< 65,000 Btu/h (Cooling capacity)	Split system	8.5 HSPF
		Single package	8.0 HSPF
	≥ 65,000 Btu/h and < 135,000 Btu/h (Cooling capacity)	47°F db/43°F wb outdoor air	3.4 COP
		77°F db/15°F wb outdoor air	2.4 COP
	≥ 135,000 Btu/h (Cooling capacity)	47°F db/43°F wb outdoor air	3.1 COP
		77°F db/15°F wb outdoor air	2.1 COP
Water source (Heating mode)	< 135,000 Btu/h (Cooling capacity)	70°F entering water	4.6 COP

For SI: °C = [(°F) - 32] / 1.8, 1 British thermal unit per hour = 0.2931 W.

db = dry-bulb temperature, °F; wb = wet-bulb temperature, °F

a. IPLVs and Part load rating conditions are only applicable to equipment with capacity modulation.

b. Deduct 0.2 from the required EERs and IPLVs for units with a heating section other than electric resistance heat.

TABLE 507.2.1(3)
PACKAGED TERMINAL AIR CONDITIONERS AND
PACKAGED TERMINAL HEAT PUMPS

Equipment Type	Size Category	Minimum Efficiency
Air conditioners	< 7,000 Btu / h	11.9 EER
& Heat Pumps (Cooling Mode)	7,000 Btu / h and < 10,000 Btu / h	11.3 EER
	10,000 Btu / h and < 13,000 Btu / h	10.7 EER
	≥ 13,000 Btu / h	9.5 EER

a. Replacement units must be factory labeled as follows: "MANUFACTURED FOR REPLACEMENT APPLICATIONS ONLY: NOT TO BE INSTALLED IN NEW CONSTRUCTION PROJECTS." Replacement efficiencies apply only to units with existing sleeves less than 16 inches (406 mm) high and less than 42 inches (1067 mm) wide.

TABLE 507.2.1(4)
WARM AIR FURNACES AND COMBINATION WARM AIR FURNACES/AIR-CONDITIONING UNITS, WARM AIR DUCT FURNACES AND UNIT HEATERS, EFFICIENCY REQUIREMENTS

Equipment Type	Size Category (Input)	Subcategory Or Rating Condition	Minimum Efficiency	Test Procedure
Warm air furnaces, gas fired	< 225,000 Btu/h	-	90% AFUE or 90% <i>Et</i>	DOE 10 CFR Part 430 or ANSI Z21.47
	≥ 225,000 Btu/h	Maximum capacity	90% <i>Ec</i> , note 1.	ANSI Z21.47
Warm air furnaces, oil fired	< 225,000 Btu/h	-	85% AFUE or 85% <i>Et</i>	DOE 10 CFR Part 430 or UL727
	≥ 225,000 Btu/h	Maximum capacity	85% <i>Et</i> , note 1.	UL 727
Warm air duct furnaces, gas fired	All capacities	Maximum capacity	90% <i>Ec</i>	ANSI Z83.8
Warm air unit heaters, gas fired	All capacities	Maximum capacity	90% <i>Ec</i>	ANSI Z83.8
Warm air unit heaters, oil fired	All capacities	Maximum capacity	90% <i>Ec</i>	UL 731

For SI: 1 British thermal unit per hour = 0.2931 W.

1. Units must also include an IID (intermittent ignition device), have jackets not exceeding 0.75 percent of the input rating, and have either power venting or a flue damper. A vent damper is an acceptable alternative to a flue damper for those furnaces where combustion air is drawn from the conditioned space. Where there are two ratings, units not covered by the National Appliance Energy Conservation Act of 1987 (NAECA) (3-phase power or cooling capacity greater than or equal to 65,000 Btu/h [19 kW] shall comply with either rating.

Et = Thermal efficiency

Ec = Combustion efficiency (100% less flue losses)

Efficient furnace fan: All fossil fuel furnaces in zones 3 to 8 shall have a furnace electricity ratio not greater than 2% and shall include a manufacturer's designation of the furnace electricity ratio.

TABLE 507.2.1(5)
BOILER, EFFICIENCY REQUIREMENTS

Equipment Type	Size Category	Minimum Efficiency
Gas Hot Water	< 300,000 Btu/h	90% <i>Et</i>
	> 300,000 Btu/h and < 2.5 mBtu/h	89% <i>Et</i>
Gas Steam	< 300,000 Btu/h	89% <i>Et</i>
	≥ 300,000 Btu/h	89% <i>Et</i>
Oil	< 300,000 Btu/h	90% <i>Et</i>
	≥ 300,000 Btu/h	89% <i>Et</i>
<i>Et</i> = thermal efficiency		

**TABLE 507.2.1(5)
CHILLERS - EFFICIENCY REQUIREMENTS**

Equipment Type	Size Category	Required Efficiency- Chillers		Optional Compliance Path - Required Efficiency - Chillers With VSD	
		Full Load (KW/ Ton)	IPLV (KW/ Ton)	Full Load (KW/Ton)	IPLV (KW/ Ton)
Air Cooled w/ Condenser	All	1.2	1.0	N/A	N/A
Air Cooled w/o Condenser	All	1.08	1.08	N/A	N/A
Water Cooled, Reciprocating	All	0.840	0.630	N/A	N/A
Water Cooled, Rotary Screw and Scroll	< 90 tons	0.780	0.600	N/A	N/A
	90 tons and < 150 tons	0.730	0.550	N/A	N/A
	150 tons and < 300 tons	0.610	0.510	N/A	N/A
	≥ 300 tons	0.600	0.490	N/A	N/A
Water Cooled, Centrifugal	< 150 tons	0.610	0.620	0.630	0.400
	150 tons and < 300 tons	0.590	0.560	0.600	0.400
	300 tons and < 600 tons	0.570	0.510	0.580	0.400
	≥ 600 tons	0.550	0.510	0.550	0.400

a. Compliance with full load efficiency numbers and IPLV numbers are both required.

b. Only Chillers with Variable Speed Drives(VSD) may use the optional compliance path here for chiller efficiency.

**TABLE 507.2.1(6)
ABSORPTION CHILLERS - EFFICIENCY REQUIREMENTS**

Equipment Type	Required Efficiency Full Load COP (IPLV)
Air Cooled, Single Effect	0.60, but only allowed in heat recovery applications
Water Cooled, Single Effect	0.70, but only allowed in heat recovery applications
Double Effect - Direct Fired	1.0 (1.05)
Double Effect - Indirect Fired	1.20

507.2.2 Reduced Lighting Power Density.

Whole Building Lighting Power Density (Watts/ft²) must be reduced by at least 10% from the values in table 505.5.2, or as shown in table 507.2.2.

507.2.2.1 Automatic Daylighting Controls.

Automatic daylighting controls shall be installed in the daylight zone and shall meet the requirements of 505.2.2.1.3.

**TABLE 507.2.2
REDUCED INTERIOR LIGHTING POWER ALLOWANCES
LIGHTING POWER DENSITY**

Building Area Type^a	Reduced whole building (W/ft²)
Automotive Facility	0.8
Convention Center	1.1
Court House	1.1
Dining: Bar Lounge/Leisure	1.2
Dining: Cafeteria/Fast Food	1.3
Dining: Family	1.4
Dormitory	0.9
Exercise Center	0.9
Fire Station	0.7
Gymnasium	1.0
Healthcare-Clinic	0.9
Hospital	1.1
Hotel	0.9
Library	1.2
Manufacturing Facility	1.2
Motel	0.9
Motion Picture Theater	1.1
Multi-Family	0.6
Museum	1.0
Office	0.8
Parking Garage	0.3
Penitentiary	0.9
Performing Arts Theater	1.4
Police	0.9
Post Office	1.0
Religious Building	1.2
Retail ^b	1.2
School/University	1.1
Sports Arena	1.0
Town Hall	1.0
Transportation	0.9
Warehouse	0.7
Workshop	1.3

See IECC 2009 Table 505.2 for notes and exception.

507.2.3 On-site Supply of Renewable Energy

The building or surrounding property shall incorporate an on-site renewable energy system that supplies 3% or more of total building electrical loads. On-site power generation using nonrenewable resources does not meet this requirement.

The jurisdiction shall be provided with an energy analysis that documents the renewable energy contribution to the building or a calculation demonstrating that the on-site supply of renewable energy:

- a) Is capable of providing at least 3 percent of the total energy load of the building,
or
- b) Has an installed maximum generating capacity equal to or greater than 0.50 watts per square foot of usable floor space.

Insert IECC 2009 Chapter 6 – Referenced Standards

Appendices

Appendix A:

Contact Information for local, state and federal government, as well as not-for-profits that support energy reduction planning:

City of Springfield; City Council Sub-Committee on Green City Initiatives

James J. Ferrara III, Chair
Springfield City Hall
36 Court Street, Room 312
Springfield, Massachusetts 01103
(413) 787.6170
www.springfieldcityhall.com

Pioneer Valley Planning Commission

60 Congress Street, Floor 1
Springfield, MA 01104-3419
Ph: (413) 781.6045
Fax: (413) 732.2593
www.pvpc.org

Jim Barry, Regional Coordinator

Green Communities Division
Western Region
Massachusetts Department of Energy Resources
436 Dwight St, Springfield, MA 01003
Ph: (413) 755.2232
Cell: (617) 823.4588
Jim.Barry@State.MA.US
www.mass.gov/doer/

U.S. Environmental Protection Agency - New England

Customer Call Center
Ph: (888) 372.7341
Fax: (617) 918.0101
www.epa.gov

U.S. Department of Energy

1000 Independence Ave., SW
Washington, DC 20585
Ph: (202) 586.5000
Fax: (202) 586.4403
www.energy.gov