

MAYOR & COUNCIL AGENDA COVER SHEET

MEETING DATE:

August 18, 2008

CALL TO PODIUM:

Fred Felton
Assistant City Manager

RESPONSIBLE STAFF:

Fred Felton
Erica Shingara
Greg Ossont
Wes Burnette
Greg Dennison
Cliff Lee

AGENDA ITEM:

(please check one)

	Presentation
	Proclamation/Certificate
	Appointment
	Public Hearing
	Historic District
	Consent Item
X	Ordinance (Introduction)
	Resolution
	Policy Discussion
	Work Session Discussion Item
	Other:

PUBLIC HEARING HISTORY:

(Please complete this section if agenda item is a public hearing)

Introduced	
Advertised	
Hearing Date	
Record Held Open	
Policy Discussion	

TITLE:

An Ordinance To Amend Chapter 5 Of The City Code, Entitled "Buildings," To Include In Article I, Entitled "The International Building Code (2003)," Section 5-3, Entitled "Same—Modifications To The International Building Code 2003,"A New Section 3110, Entitled "Green Building Requirements"

SUPPORTING BACKGROUND:

The proposed amendment supports the City's long standing commitment to promote sustainable design in public, residential, and commercial projects. While the City has already adopted green building requirements for municipal and residential construction, commercial green building has been negotiated on a case-by-case basis.

During the January 2008 Strategic Planning Retreat, the Mayor and City Council directed staff to develop a mandatory commercial green building ordinance. Since that time a staff team from the City Manager's Office, the Environmental Services Division, and the Permits and Inspections Division has been meeting periodically to develop recommendations.

As the Mayor and City Council are aware, the U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) rating system has been widely adopted by the private and public sectors for commercial development. In fact, the recently completed 200,000 square foot office building at the Monument Office Park just received Silver certification from the USGBC. In addition, the 200,000 square foot office building under construction at Washingtonian South is designed with the intent to receive Gold certification from the USGBC.

Within this region, Howard County, Montgomery County, and Washington D.C. have adopted LEED certification for certain commercial buildings. Furthermore, the Metropolitan Washington Council of Governments 2007 report, *Greening the Metropolitan Washington Region's Built Environment*, recommends that local governments establish LEED as the region's preferred green building rating system for new commercial construction and high rise residential projects.

-Continued-

DESIRED OUTCOME:

Staff recommends that the Mayor and City Council vote to introduce the ordinance, and notify the public that the hearing will be held on September 2, 2008.

MAYOR & COUNCIL AGENDA COVER SHEET

SUPPORTING BACKGROUND CONTINUED:

After considerable discussion and consultation with experts, staff has reached the conclusion that it is more difficult and costly to meet LEED requirements for smaller projects and that there are larger environmental, operational, and maintenance benefits for incorporating more stringent LEED requirements for larger buildings. Accordingly, the attached draft ordinance would amend the International Building Code to require two different LEED standards, based on the building size, for commercial and high rise residential projects:

1. Commercial and high rise residential buildings between 10,000 and 100,000 square feet would be required to obtain LEED certification from the USGBC.*
2. Commercial and high rise residential buildings larger than 100,000 square feet would be required to obtain a LEED Silver rating from the USGBC. *

(*As an alternative to USGBC registration, the City Manager may adopt standards as regulation as equivalent to the appropriate LEED rating system.)

Furthermore, staff recognized that neither the commercial green building nor the residential green building requirements technically apply to multi-family buildings four stories or less (wood framed construction). Although the developers of the last three approved multi-family projects (Fairfield, Summit Center, and Residences at Olde Towne) have agreed to voluntarily follow this code; there is no guarantee that future developers will agree to comply. Accordingly, the proposed ordinance would also make our previously adopted Residential Green Building Ordinance mandatory for these multi-family structures.

Finally, the draft ordinance does permit the Planning Commission to waive or modify the Green building requirements for a given project upon recommendation by the City Manager or his designee; however, a waiver must be based upon a finding that unique physical characteristics of the property or the project make strict compliance of the code impracticable.

Attachments

1. **Draft ordinance**
2. **Existing Residential Green Building Code**

ORDINANCE NO. 0-14-07

AN ORDINANCE TO AMEND CHAPTER 5
OF THE CITY CODE ENTITLED "BUILDINGS," TO INCLUDE IN ARTICLE II,
ENTITLED "THE INTERNATIONAL RESIDENTIAL CODE (2003)", A NEW SECTION
R326 "GAITHERSBURG GREEN RESIDENTIAL CRITERIA".

BE IT ORDAINED, by the Mayor & City Council of the City of Gaithersburg, in
public meeting assembled, that Chapter 5 of the City Code is hereby amended to read
as follows:

CHAPTER 5

BUILDINGS

* * * * *

ARTICLE II. THE INTERNATIONAL RESIDENTIAL CODE (2003)

SEC. 5 – 5 – Modification

The International Residential Code (2003), adopted by Section 5-4, is hereby modified
as follows:

Add new Section R326 "Gaithersburg Green Residential Criteria" to read as follows:

Building Requirements

SCOPE: The provisions of Section R326 shall only apply to new construction and
additions that increase the gross floor area of a dwelling by more than fifty percent. The
provisions of Section R326 may be modified by the building code official to the extent
necessary to accommodate historic preservation considerations on any dwelling unit
that is located in a historic district or is designated as a historic structure.

- 1) **Energy Performance:** Improve overall energy performance by designing and
building high performing ENERGY STAR qualified homes by meeting or exceeding
the following requirements¹:
 - a) *Cooling equipment:* 13 SEER A/C; OR ENERGY STAR qualified heat pump
(11.5 EER/ 8.5 HSPF)
 - b) *Heating equipment:* ENERGY STAR qualified gas furnace (90 AFUE); OR
ENERGY STAR qualified heat pump; OR ENERGY STAR qualified boiler (85
AFUE); OR 85 AFUE oil furnace. Homes with heat pumps in Climate Zone 4

¹ Requirements 'a-g' meet those included in the ENERGY STAR Qualified Homes National Builder
Option Package (BPO) (as of September 19, 2007). Requirements 'h-i' exceed the BPO program and are
included in LEED Homes and Green Communities criteria.

must have an HSPF ≥ 8.5 , which exceeds the ENERGY STAR minimum of 8.2 HSPF.

- c) *Thermostat*: install ENERGY STAR qualified programmable thermostat with an "Adaptive Recovery" technology to prevent the excessive use of electric back-up heating.
- d) *Ductwork*: Leakage ≤ 4 cfm to outdoors / 100 sq. ft.; AND R-6 min. insulation on ducts in unconditioned spaces.
- e) *Envelope*: The building envelope shall meet or exceed the following requirements:
 - i) Infiltration (ACH50): 6 in CZ 3-4; AND
 - ii) Insulation levels that meet or exceed the current IRC; AND
 - iii) Completed Thermal Bypass Inspection Checklist.
- f) *Windows*: All windows and skylights must meet or exceed the ENERGY STAR specifications for Climate Zone 4 (GZ-4: U-value ≤ 0.40 and SHGC ≤ 0.45).
- g) *Water heater*:

Gas (EF):	40 Gal = 0.61	60 Gal = 0.57	80 Gal = 0.53
Electric (EF):	40 Gal = 0.93	50 Gal = 0.92	80 Gal = 0.89
Oil or Gas:	Integrated with space heating boiler		
- h) *Appliances*: Reduce electric load due to appliances by selecting and installing ENERGY STAR qualified clothes washers, dishwashers, and refrigerators.
- i) *Lighting*: Reduce electric load due to lighting by selecting and installing the following measures:
 - i) Efficient exterior lighting- All exterior lighting shall have automatic photocell, motion, or timer controls. Outdoor lighting shall have a horizontal cutoff to eliminate light trespass from the building and site and to minimize impact on nocturnal environments. Use downlighting instead of uplighting.
 - ii) Efficient interior lighting- Install at least four ENERGY STAR-labeled lighting fixtures or ENERGY STAR Advanced Lighting Package in all interior units. Install compact fluorescent lamps (CFLs) or equivalent in at least 80% of applicable light fixtures.

2) **Healthy Living Environment**: Protect occupants from exposure to contaminants by meeting or exceeding the following ventilation, source control, and source removal measures²:

- a) *Heating, Ventilation, and Air Conditioning (HVAC) sizing*: Size heating and cooling equipment in accordance with the Air Conditioning Contractors of America Manual, Parts J and S, to prevent short-cycling of heating or air conditioning and ensure adequate dehumidification. However, the HVAC unit may be upsized at the discretion of the building code official.
- b) *Garage isolation*: Provide a continuous air barrier between the conditioned (living) space and any unconditioned garage space to prevent the migration of any contaminants into the living space. In single-family houses with attached

² Requirements 'a-e' are derived from the Enterprise Foundation's Green Communities Criteria and requirement 'f' is derived from ENERGY STAR with Indoor Air Package Specifications (as of September 19, 2007).

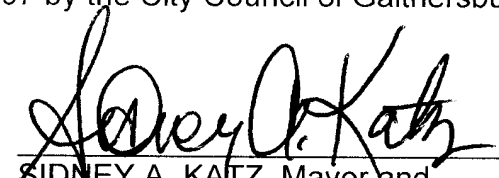
garages, install a CO alarm inside the house on the wall that is attached to the garage or is outside the sleeping area.

- c) *Water heaters- mold prevention:* Use tankless hot water heaters or install conventional hot water heaters in rooms with drains or catch pans piped to the exterior of the dwelling and with non-water sensitive floor covering.
 - d) *Water heaters- minimizing CO:* Specify direct vented or combustion sealed water heaters if the heater is located in a conditioned space.
 - e) *Cold water pipe insulation:* Insulate exposed cold water pipes in climates and building conditions susceptible to moisture condensation.
 - f) *Building Materials:* Building materials shall meet or exceed the following requirements:
 - i) Structural plywood conforming to PS1 and PS2 and oriented strand board shall be made with exterior-type adhesives. Exterior-type adhesive is evident by the appearance of "Exposure 1" or "Exterior" in the panel trademark.
 - ii) Particleboard and medium density fiberboard (MDF) shall be certified compliant with the low formaldehyde emission standards ANSI A208.1 and A208.2, respectively.
 - iii) Hardwood plywood shall be compliant with ANSI/HPV HP-1-2004 and U.S. HUD Title 24, Part 3280.
 - iv) Carpets, carpet pad, and carpet adhesives shall carry the Carpet and Rug Institute (CRI) Green Label or documented to meet the CRI Green Label testing program criteria for low-emitting products. Products labeled with the CRI Green Label Plus also meet this requirement.
 - v) Permeability rating of finishes used on the interior side of a home's exterior walls in hot humid and humid mixed climates shall be greater than '1'.
- 3) **Waste Management:** Divert construction, demolition, and land clearing materials from landfill disposal and reduce the demand for virgin resources by developing a *Construction, Demolition, and Landclearing (CDL) Waste Management Plan* with a goal to divert a minimum of 50% (by weight) of CDL waste from the landfill by one, or a combination of the following activities: salvage, reuse, source-separated CDL recycling, or co-mingled recycling.
- i) The plan should include such CDL materials, but not limited to: acoustical ceiling tiles, appliances, asphalt, asphalt shingles, brick, cabinets, cardboard packaging, carpet and carpet pad, concrete, doors, drywall, fixtures, fluorescent lights and ballasts, garage doors, glass (window), glass (other), green waste and land clearing debris, gypsum board, metals, paint, plastic, wood, field office waste (office paper, aluminum cans, glass, plastic, and office cardboard), and other salvage materials. The plan must be submitted as part of the permit application and will address the materials used or deconstructed on site, management method, hauler, destination, approximate quantities, and handling procedures.
 - ii) The plan shall be posted at the job site and implementation shall include:
 - (1) Waste prevention and recycling activities will be discussed at each safety meeting

- (2) As each new subcontractor comes on-site, the recycling coordinator will present him/her with a copy of the Waste Management Plan and provide a tour of the recycling areas.
 - (3) The subcontractor will be expected to make sure all their crews comply with the Waste Management Plan.
 - (4) All recycling containers will be clearly labeled.
 - (5) Lists of acceptable/unacceptable materials will be posted throughout the site.
- 4) **Homeowner Education:** Educate the homeowner about the home's green features and the operation and maintenance of key features and equipment related to optimizing home performance by completing the following:
- a) *Owner's Manual:* Provide a homeowner manual, to be included in the submittal of building plans, that includes the following:
 - i) A guide for homeowners and renters that explains the intent, benefits, use and maintenance of green building features, and encourages additional green activities such as recycling, landscaping, and use of healthy cleaning materials;
 - ii) Instructions and a routine maintenance plans for all appliances, HVAC operation, water-system turnoffs, lighting equipment and other systems that are part of each occupancy unit; and
 - iii) An occupancy turnover plan that describes in detail the process of educating the tenant about proper use and maintenance of all building systems.
 - b) *Homeowner and New Resident Orientation:* Provide a walk-through and orientation to the homeowner or new resident that reviews the building's green features, operations, and maintenance.

* * * * *

ADOPTED, this 15th day of October, 2007 by the City Council of Gaithersburg, Maryland.



SIDNEY A. KATZ, Mayor and
President of the City Council

DRAFT

ORDINANCE NO. _____

AN ORDINANCE TO AMEND CHAPTER 5 OF THE CITY CODE, ENTITLED "BUILDINGS," TO INCLUDE IN ARTICLE I, ENTITLED "THE INTERNATIONAL BUILDING CODE (2003)," SECTION 5-3, ENTITLED "SAME—MODIFICATIONS TO THE INTERNATIONAL BUILDING CODE 2003," A NEW SECTION 3110, ENTITLED "GREEN BUILDING REQUIREMENTS"

BE IT ORDAINED, by the Mayor and City Council of the City of Gaithersburg, in public meeting assembled, that Chapter 5 of the City Code is hereby amended to read as follows:

CHAPTER 5

BUILDINGS

* * * * *

ARTICLE I. THE INTERNATIONAL BUILDING CODE (2003)

SEC. 5-3 Same—Modifications to the International Building Code 2003

* * * * *

(59) Add new Section 3110, Green Building Requirements to read as follows:

3110.1 Scope. All buildings, and the accompanying building sites, listed in this section shall be constructed in accordance with the green building standards that are referenced herein.

3110.2 Commercial and High Rise Residential Buildings

3110.2.1 Scope. For the purpose of this subsection, these requirements shall pertain to newly constructed or "substantially improved" commercial and high rise residential buildings equal to or larger than 10,000 square feet. "Substantially improved" structures include renovations or reconstruction of existing buildings with at least 10,000 square feet of gross floor area that alter more than 50% of the GFA, additions that double the building's footprint or add at least 10,000 square feet of GFA, and/or

Boldface	<i>Heading or defined term.</i>
<u>Underlining</u>	<i>Added to existing law by original bill.</i>
Single strikethrough	<i>Deleted from existing law by original bill.</i>
<u>Double underlining</u>	<i>Added by Amendment.</i>
Double boldface strikethrough	<i>Deleted from existing law or the bill by amendment.</i>
* * *	<i>Existing law unaffected by bill.</i>

any repair, alteration, addition, or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the market value of the structure, before the improvement or repair is started.

3110.2.2 Requirements. Applicable structures equal to or larger than 10,000 square feet, but no larger than 99,999 square feet, must achieve a certification from the U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED®) green building rating system of a Certified-level rating or higher in LEED NC 2.2 or LEED CS 2.0 OR comply with energy and environmental design standards that the City Manager may adopt by regulation, pursuant to Section 2-10 of the City Code, as equivalent to a Certified-level rating in the appropriate LEED rating system. Applicable structures equal to or larger than 100,000 square feet must achieve a certification from the USGBC LEED green building rating system of a Silver-level rating or higher in LEED NC 2.2 or LEED CS 2.0 OR comply with energy and environmental design standards that the City Manager may adopt by regulation, pursuant to Section 2-10 of the City Code, as equivalent to a Silver-level rating in the appropriate LEED rating system.

3110.2.3 Submittals. Prior to the issuance of grading permits, the applicant shall submit documentation showing the project has been registered with the USGBC and the applicable LEED registration fee has been paid OR meets the standards that the City Manager may adopt by regulation as equivalent to the appropriate LEED rating system. The applicant shall also submit a checklist that is prepared, signed, and dated by the project LEED accredited professional OR a checklist that is approved by the City Manager that demonstrates the applicant meets with the equivalent standards.

3110.2.4 Verification. Within eighteen (18) months after the receipt of a Certificate of Use and Occupancy, the applicant shall provide proof to that the required LEED-level rating was obtained. Failure to submit the required proof shall be grounds for revocation of the Certificate of Use and Occupancy.

3110.2.5 Waiver. A waiver or modification of the green building requirements may be granted by the Planning Commission, upon recommendation by the City Manager or his designee, based upon a finding that unique physical characteristics of the property or the project make strict compliance with Section 3110 impracticable; however, financial hardship of meeting LEED shall not be the sole basis for approving a waiver or modification.

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3110.3 Multifamily Residential Structures

3110.3 Multifamily Buildings

3110.3.1 Scope. For the purpose of this subsection, the scope shall include multifamily buildings and sites designed as Use R-2 and R-3 buildings that are type V construction and 4 stories or less in height, and do not fall under the purview of the International Residential Code as single family dwellings. This shall include the multifamily portion of any mixed or multi-use building. These requirements shall pertain to new construction of, reconstruction of, additions to, or substantial improvement, defined as any repair, alteration, addition, or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the market value of the structure, before the improvement or repair is started, of multi-family buildings as described above.

3110.3.2 Requirements. The green building requirements for projects outlined in Section 3110.3.1 shall be regulated by Chapter 5 of the City Code (“Buildings”), Article II (“The International Residential Code (2003)”), Section 5-5 (“Same—Modifications”), Section R326 (“Gaithersburg Green Residential Criteria”), Subsection 1 (“Energy Performance”), Subsection 2 (“Healthy Living Environment”), Subsection 3 (“Waste Management”), and Subsection 4 (“Homeowner Education”).

3110.3.3 Waiver. A waiver or modification of the green building requirements may be granted by the Planning Commission, upon recommendation by the City Manager or his designee, based upon a finding that unique physical characteristics of the property or the project make strict compliance with Section 3110 impracticable; however, financial hardship shall not be the sole basis for approving a waiver or modification.

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(59) **60** *Subsection 3302.3. Construction in Occupied Buildings.* Add new subsection to read as follows:

"*Subsection 3302.3. Construction in Occupied Buildings.* Existing occupied buildings and/or spaces shall not remain occupied during construction operations.

Exception: Where the building or space is adaptable to a phasing operation that clearly demonstrates to the building official that the health, safety, and welfare of the occupants of that building is not jeopardized in any way by the construction project, and that the provisions set forth in subsection 3302.3.1 can be met."

(60) **61** *Subsection 3302.3.1. Safety Requirements.* Add new subsection to read as follows:

"Subsection 3302.3.1. Safety Requirements. All buildings/spaces approved by the building official for construction to occur while the buildings/spaces are occupied shall conform to the following requirements:

1. Construction areas shall be completely separated from occupied areas by a solid, noncombustible barrier.

- In non-sprinklered buildings, this barrier shall have a minimum fire rating of one hour, and shall extend from the floor to the underside of the next deck above, roof or floor.

- In fully sprinklered buildings, an alternative barrier of a solid, limited combustible wall, at least 6 feet in height, with a limited combustible, non-solid dust barrier (such as fire retardant plastic sheeting) extending to the ceiling above is acceptable.

- In both cases, openings for workers to access construction areas shall be through self-closing gates, constructed of material similar or equal to the walls, and posted with signage notifying occupants they are not permitted to enter the construction area.

2. All required exits, egress paths, etc., that serve the occupied area(s) shall remain open, free from obstruction or construction related hazards, at the full required width, and in complete conformance with all applicable City of Gaithersburg codes regarding egress from buildings.

3. All fire suppression and protection systems shall be kept in working order in accordance with the City Fire Code.

4. All HVAC and mechanical systems shall be completely isolated at construction areas to prevent the spread of dust, fumes, noxious odors, etc., from spreading into occupied areas.

5. Violations of this section will result in one or more of the following actions being taken:

- A Stop Work order being placed on the job.

- A municipal infraction of \$200.00 (minimum) being levied for each day the violation exists (amount is dependent upon type of violation.)

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- A Cease and Desist Occupancy order being placed on the occupied establishment that is endangered by the violation."

(61) **62** *Subsection 3401.2.* Add the following at the end of the first sentence: "Existing buildings, as defined by the Maryland Building Rehabilitation Code, undergoing repair, alterations, additions, and/or change of occupancy, shall be permitted to comply with the Maryland Building Rehabilitation Code."

(62) **63** *Appendix F.* Appendix F is hereby adopted in its entirety.

(63) **64** *Appendix G.* Appendix G is hereby adopted in its entirety and amended as follows:

"Appendix G. Section G102.1. After the words "International Building Code" insert the phrase "and the provisions of Chapter 10 of the City of Gaithersburg Code."

(64) **65** *Appendix H.* Appendix H is adopted in its entirety except for any instances where there is a conflict with the City of Gaithersburg Sign Ordinance (City Code, Chapter 24, Article IX) or amendments (49), (50), and (51) of this document, any of which shall take precedence over this appendix.

(65) **66** *Appendix I.* Appendix I is hereby adopted in its entirety.

(66) **67** *Appendix F of the 2003 International Residential Code.* Appendix F of the International Residential Code is hereby adopted in its entirety and shall apply to all residential Use and Occupancy classifications.

* * * * *

ADOPTED, this ____ day of _____, 2008 by the City Council of Gaithersburg, Maryland.

SIDNEY A. KATZ, Mayor and
President of the City Council

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DELIVERED to the Mayor of the City of Gaithersburg, Maryland, this ____ day of _____, 2008. APPROVED/VETOED by the Mayor of the City of Gaithersburg, this _____ day of _____, 2008.

Sidney A. Katz, Mayor

THIS IS TO CERTIFY that the foregoing ordinance as adopted by the City Council of Gaithersburg, in a public meeting assembled, on the ____ day of _____, 2008 and that the same was approved/vetoed by the Mayor of the City of Gaithersburg on the _____ day of _____, 2008. This Ordinance will become effective on the ____ day of _____, 2008.

James D. Arnoult, Acting City Manager