
Appendix J

Green
Area
Ratio

J.1 Green Area Ratio

The Green Area Ratio (GAR) is found in Subtitle B Chapter 13 of the proposed revisions to the District of Columbia zoning codes. The compliance with the proposed GAR will be submitted and reviewed through DDOE.

The GAR is an environmental sustainability measure that sets standards for landscape and site design that contribute to the reduction of stormwater runoff, improve air quality, and reduce the urban heat island effect. The GAR applies to permit and certificate of occupancy requirements on all new development and major renovations on Commercial, Multifamily Residential, and Industrial (PDR) sites. Residential Single Family Homes, Accessory Dwelling Units, and Duplexes will be exempt from the GAR requirements.

The required level of GAR compliance is established by zone. Achievement is based on a measure of landscape elements, their environmental benefit and total area on the site. A wide variety of landscape elements can apply, each of which has been assigned an environmental performance ranking. Example may include:

- Impermeable pavement
- Impermeable roof
- Turf grass
- Un-vegetated permeable pavement
- Vegetated permeable pavement
- Green roofs
- Solar Panels
- Ground cover
- Rain gardens
- Trees & shrubs
- Green facades

J.2 Green Area Ratio Formula

To calculate the GAR score:

- A) The area of each landscape element is multiplied by its corresponding multiplier;**
- B) The resulting numbers for all landscape elements are added together;**
- C) The resulting point total is then divided by the total land area of the site;**
- D) The product of the equation equals the property's GAR.**

J.3 Draft Green Area Ratio Worksheet

DRAFT 12/1/2010 Project title: 5305 Sample Site Street				
	<i>enter sq ft of parcel</i>		<i>minimum score determined by zone</i>	
	Parcel size (enter this value first) *	<input type="text" value="15,232"/>	SCORE	0.451
Landscape Elements**	Square Feet	Factor	Total	
A Landscaped areas (select one of the following for each area)				
1	<i>enter sq ft</i> <input type="text" value="5131"/>	0.3	1,539	
2	<i>enter sq ft</i> <input type="text" value="0"/>	0.6	-	
3	<i>enter sq ft</i> <input type="text" value="0"/>	0.4	-	
B Plantings (credit for plants in landscaped areas from Section A)				
1	<i>enter sq ft</i> <input type="text" value="5131"/>	0.2	1,026	
2	<i>enter number of plants</i> <input type="text" value="600"/>	0.3	180	
4	<i>enter number of trees</i> <input type="text" value="1"/>	0.5	25.0	
5	<i>enter number of trees</i> <input type="text" value="5"/>	0.6	750.0	
6	<i>enter number of trees</i> <input type="text" value="6"/>	0.6	2,160.0	
7	<i>enter number of trees</i> <input type="text" value="0"/>	0.7	25,144.0	
8	<i>enter number of trees</i> <input type="text" value="0"/>	0.8	-	
9	<i>enter sq ft</i> <input type="text" value="0"/>	0.6	-	
C Vegetated or "green" roofs				
1	<i>enter sq ft</i> <input type="text" value="1,000"/>	0.6	600.0	
2	<i>enter sq ft</i> <input type="text" value="0"/>	0.8	-	
D Renewable energy generation				
	<i>enter sq ft</i> <input type="text" value="0"/>	0.5	-	
E Approved water features				
	<i>enter sq ft</i> <input type="text" value="0"/>	0.2	-	
F Permeable paving***				
1	<i>enter sq ft</i> <input type="text" value="1468"/>	0.4	587.2	
2	<i>enter sq ft</i> <input type="text" value="0"/>	0.5	-	
G Structural soil systems***				
	<i>enter sq ft</i> <input type="text" value="0"/>	0.4	-	
		<i>sub-total of sq ft =</i> 18,230		
H Bonuses				
1	<i>enter sq ft</i> <input type="text" value="0"/>	0.1	-	
2	<i>enter sq ft</i> <input type="text" value="0"/>	0.1	-	
3	<i>enter sq ft</i> <input type="text" value="0"/>	0.1	-	
			<i>Green Area Ratio numerator =</i> 6,868	

*** Permeable paving and structural soil together may not qualify for more than one third of the Green Area Ratio score.

J.4 Green Area Ratio Examples

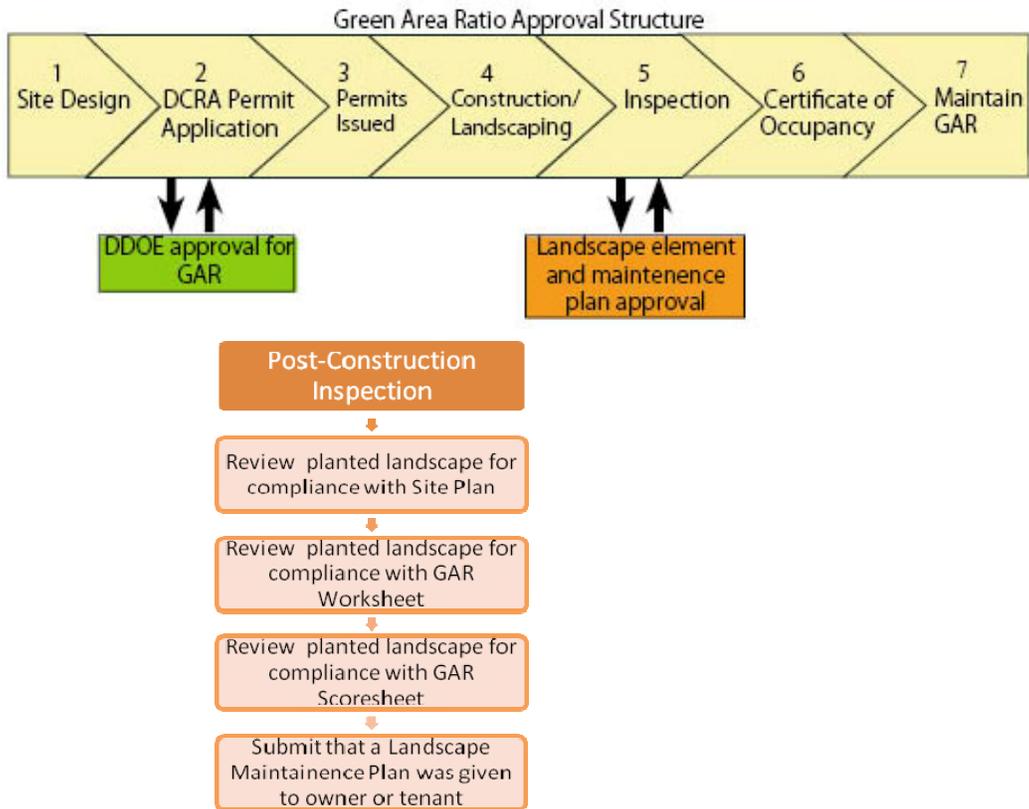
SCENARIO. 1433 T Street NW was chosen to illustrate how an applicant would determine their existing GAR and weigh options for meeting their GAR zoning requirement. The sample site is a multi-family residential building in an R-5-B zone. The existing GAR according to proposed GAR zoning requirements would be 0.23.



Figure J1. 1433 T Street NW, looking north and aerial, note tree and parking area to the north.

ANALYSIS. If all the paved area in the rear of the building, currently used for parking, were replaced with permeable paving, the GAR score would be raised to 0.325. Alternatively, if a green roof of native species were installed on the roof of the building, leaving room for mechanical structures, the building could achieve a GAR of 0.438. If the two options were combined, the property could achieve a GAR score of 0.532.

J.5 Green Area Ratio Submission Process



J.5 Green Area Ratio Submission Form

Landscaping Checklist for Green Area Ratio

I, _____, declare as follows:

I am a landscape expert, as defined in subsection Section XXX of Title 11 of DCMR, responsible for the approved landscape plan for development located at _____, Washington, DC, and developed pursuant to:

Certificate of Occupancy Number _____

Building Permit Number _____

The approved landscape plan meets or exceeds this project's required minimum Green Area Ratio score.

The landscape features shown on the approved landscaping plan for this property have been installed as approved and in a manner consistent with the standards of the Title 11 Zoning Code. This includes the number, size, and approximate location of plantings.

I understand that changes to any of the following aspects of the approved landscape plan require a revision to the plans and approval by the Department of Consumer and Regulatory Affairs:

a) Number of trees or shrubs

b) Location of required plantings or planting area

c) Substitution of species required by permit conditions

Any changes or species substitutions (if applicable) have been approved by DCRA. Revised permit number _____

A completed Landscape Management Plan has been submitted to the owner.

I declare under penalty of perjury under the laws of the District of Columbia that the foregoing is true and correct.

Signature of landscape expert

Date

NOTE: If any landscape features have been changed during installation, DO NOT SIGN OR SUBMIT this checklist until a revised landscape plan has been approved by the Department of Consumer and Regulatory Affairs. If you provide false information in this document, you will subject yourself to criminal liability.

