



City of Boulder Residential Building Guide  
**Green Building & Green Points**  
**Application**

Resource Conservation Ordinance 7565  
[www.boulderdeenpoints.com](http://www.boulderdeenpoints.com)

**FOR ADDITIONS and REMODELS**

**Before filling out this application, read Green Building & Green Points Guideline Booklet for more in-depth information.**

**Applicant Name:** \_\_\_\_\_ **Company:** \_\_\_\_\_

**Phone:** (\_\_\_\_) \_\_\_\_\_

**Project Address:** \_\_\_\_\_ **Zip:** \_\_\_\_\_

**Homeowner (if applicable) :** \_\_\_\_\_

<b>1 and 2 Family Dwellings*</b>	<b>Multifamily Dwellings*</b>
_____ <b>Total floor area (sq. ft.) of existing structure</b> _____ Total floor area of addition _____ Total floor area of remodel (see definition in Green Building / Green Points Guideline Booklet) _____ Total Green Points selected from worksheet below	_____ <b>Total floor area (sq. ft.) of existing structure or units</b> _____ Total number of units _____ Total floor area (sq. ft.) of addition _____ Total floor area of remodel (see definition in Green Building / Green Points Guideline Booklet) _____ Total Green Points selected from worksheet below

*\* Not all fields may apply.*

**For application information contact:**

City of Boulder Planning & Development Services, 1739 Broadway, Third Floor  
 Mail: P.O. Box 791, Boulder, CO 80306-0791  
 303-441-1880, Fax: 303-441-3241  
 Web site: [www.boulderplandevop.net](http://www.boulderplandevop.net)

**For Green Points Ordinance information contact:**

City of Boulder Office of Environmental Affairs  
 303-441-3090, Fax: 303-441-4070  
 Web site: [www.boulderdeenpoints.com](http://www.boulderdeenpoints.com)

**Other Resources:**

City of Boulder's Water Conservation Office: 303-413-7407. Web site: [www.bouldersaveswater.net](http://www.bouldersaveswater.net)  
 Center for Resource Conservation: 303-441-3278,  
 Web site: [www.conservationcenter.org](http://www.conservationcenter.org)

<b>For Office Use Only</b>
Permit # _____
Floor Area Sq. Ft: _____
<input type="checkbox"/> 1 & 2 Family Dwelling <input type="checkbox"/> Multifamily Dwelling
Points Required: _____
Points Received: _____
Reviewer: _____

## Instructions

1. Prior to selecting any measures, consult the Green Points Program Guidelines Booklet, which contains information on specific designs, compliance and other details. The Green Points Guidelines are available at the Planning & Development Services Center or online at [www.bouldergreenpoints.com](http://www.bouldergreenpoints.com).

*If your addition is 500 square feet or less, disregard this application. You do not need to comply with the Green Points Program. Your addition must be designed using the 2006 International Energy Conservation Code (IECC).*

2. Determine the floor area of the project. Then refer to the Table 2 on page 4 to determine the number of points needed for the project (new construction, interior remodel or addition) and enter the floor area and points required in the spaces provided on the next page.

“Floor Area” means the total square footage of all levels included within the outside walls of a building or portion thereof, but excluding courts, garages, attics and crawl spaces.

### Inspection and Compliance

All approvals and inspections of Green Points applications shall be done in conjunction with a residential building permit application and field inspections. The applicant shall demonstrate compliance with all of the provisions of Chapter 10-7.5 prior to the issuance of a certificate of occupancy.

## Mandatory Green Building Requirements

Mandatory green building requirements are listed in Table 1 for remodels and additions to existing dwelling units. Each type of project will have mandatory green building requirements and green points requirements based on the type and size of project.

**Table 1 - Mandatory Green Building Requirements**

<b>Type of Project: Remodels and Additions to Existing Dwelling Units</b>
Thresholds for Application of New Construction Standards to the Entire Building as the Result of an Addition <ul style="list-style-type: none"> <li>• Refer to Section (b)</li> </ul>
Energy Efficiency for Additions and Remodels <ul style="list-style-type: none"> <li>• Refer to Section (c)</li> </ul>
Energy Audit <ul style="list-style-type: none"> <li>• Refer to Section (e)</li> </ul>
Lighting Efficiency <ul style="list-style-type: none"> <li>• Refer to Section (f)</li> </ul>
Direct Vent Furnace <ul style="list-style-type: none"> <li>• Refer to Section (g)</li> </ul>
Direct Vent Boiler <ul style="list-style-type: none"> <li>• Refer to Section (h)</li> </ul>
Construction Waste Recycling and Demolition Management <ul style="list-style-type: none"> <li>• Refer to Sections (i and j)</li> </ul>
<b>For Mandatory Green Points Requirements, See Table 2</b>

**(b) Thresholds for Application of New Construction Standards to the Entire Building as the Result of an Addition**

(A) Additions that meet the thresholds below will be considered as new construction and the entire structure will be required to comply with the requirements detailed in Energy Efficiency for New Construction below.

1) The addition is 100 percent or more than the conditioned floor area of the existing dwelling unit and the dwelling unit will have a total conditioned floor area after the addition to the dwelling unit that is up to and including 3,000 sq. ft. in size.

2) The addition is 50 percent or more than the conditioned floor area of the existing dwelling unit and the dwelling unit will have a total conditioned area after the addition to the dwelling unit that is from 3,001 to 5,000 sq. ft. in size.

3) The addition is 25 percent or more than the conditioned floor area of the existing dwelling unit and the dwelling unit will have a total conditioned floor area after the addition to the dwelling unit that is 5,001 sq. ft. or more in size

**Addition and Remodel  
New Construction Thresholds**

Total Proposed Conditioned Floor Area:	New construction threshold (percentage of existing area)
500 to 3,000 s.f.	100 %
3,001 to 5,000 s.f.	50 %
5,001 s.f. and up	25 %

**Energy Efficiency for New Construction**

Applicants for new construction must show energy efficiency compliance through the Home Energy Rating System (HERS). Table 1A lists the HERS index requirement for different sizes of projects. A HERS index lower than the minimum required may apply towards the project's Green Points requirements specified in Table 2.

**TABLE 1A – Tiers for Energy Efficiency Thresholds and Equivalent**

**HERS Index**

Type of Project	Square Footage	HERS Index (max.)	Energy Efficiency Thresholds Above Code (2006) (min.)
New Construction	Up to 3,000	70	30%
	3,001-5,000	60	50%
	5,001 and up	35	75%

**(c) Energy Efficiency for Additions and Remodels**

Additions and remodels that do not exceed the thresholds detailed in (1) above shall demonstrate meeting the energy efficiency requirements by meeting one of the following standards:

1) If upgrading the energy efficiency of the entire structure the applicant may demonstrate that the entire building meets the HERS requirements that are described in Table 1B below, or

2) The new addition or the area of the house that is subject to the remodel may demonstrate that the addition or the remodeled area meets the requirements of the IECC as described in Table 1B below. These projects shall also meet the following requirements:

(A) Complete a blower door test before applying for a building permit to determine whether the building has an air infiltration rate of no more than 0.5 natural air changes per hour (NACH) compliance rating. If the test shows a NACH rating higher than 0.5 the applicant shall meet the requirement detailed in (B.) below.

(B) Improve, repair and seal the dwelling unit, verified by a subsequent blower door test and prior to a certificate of occupancy or completion that demonstrates that:

(i) For buildings that had an infiltration rate of 1.0 NACH or greater, the building shall have a NACH 50 percent or less than the original blower door test.

(ii) For all other buildings an air infiltration rate of not greater than 0.5 NACH compliance rating.

Note: A copy of the follow-up blower door test demonstrating that the required reduction in the NACH has been achieved must be placed in the permit sleeve before final inspection.

**Table 1B – Energy Efficiency Thresholds for Remodels and Addition**

Total Conditioned Area	HERS Index	Increased Efficiency Above IECC
Up to 3,000	100	15 percent
3,001-5,000	85	30 percent
5,001 and up	70	50 percent

(3) Remodels – Limitations. A remodel that doesn't substantially remove the interior finish of the thermal envelope, less than 25 percent of total wall and ceiling areas, of the conditioned space is not required to meet the energy efficiency requirements of Table 1B.

**(e) Energy Audit**

An applicant for a building permit for a remodel of or addition to a dwelling is required to obtain an energy audit. The applicant shall provide proof of the completion of an energy audit with the building permit application. The energy audit shall quantify the annual energy performance of the building according to generally accepted standards for energy audits approved by the city manager. An energy audit or an optional HERS rating will indicate how efficiently the building is operating and where improvements can be made. A standard home energy audit includes an energy bill analysis, diagnostic testing which includes, a blower door test, checking for building envelope for leaks, an insulation assessment, heating, cooling and hot water assessment, and a visual lighting and appliances check. Once the audit is completed, a report is delivered to the home owner listing energy saving opportunities and the Home Energy Audit Certificate.

*Application:* The homeowner must provide the Home Energy Audit (HEA) Certificate, or HERS rating with the building permit application.

**(f) Lighting Efficiency**

Prior to final inspection the applicant shall install energy efficient lamps (light bulbs) with a luminous efficacy of 40 lumens per watt or above, such as compact fluorescents, in at least 50 percent of the existing light fixtures.

**(g) Direct Vent Furnace**

When the scope of the work requires replacement of a furnace, the furnace shall be replaced with a direct vent unit that has a minimum 90 percent AFUE (Annual Fuel Utilization Efficiency).

**(h) Direct Vent Boiler**

When the scope of the work of an addition to a dwelling or a remodel of a dwelling requires replacement of a boiler, the boiler shall be replaced with a direct vent unit that has a minimum 85 percent AFUE (Annual Fuel Utilization Efficiency).

**(i) Construction Waste Recycling**

An applicant shall demonstrate that a minimum of 50 percent of construction waste is recycled. Recycling ALL clean wood, cardboard and metal will count for 50% waste diversion.

*Application:* Submit a Deconstruction Plan and Construction Waste Recycling

Form (Attachment C) with the Green Points/building permit applications.

*Verification:* A completed Construction Waste Diversion Tracking Spreadsheet (Attachment D) must be provided at the final inspection which shows that the minimum recycling requirements have been met.

### **(j) Demolition Management**

An applicant proposing to demolish more than 50 percent of exterior walls shall demonstrate that at least 65 percent of material by weight from the deconstruction of the existing structure (including concrete and asphalt) will be diverted from the landfill by providing a deconstruction plan.

*Application:* Submit a Deconstruction Plan and Construction Waste Recycling Form (Attachment C) with the Demolition Permit or Green Points/building permit applications, whichever is applicable.

*Verification:* Provide documentation of satisfying the Deconstruction Plan requirements to City staff prior at the final inspection.

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## **Green Points Requirements**

Green Points are required for remodels of, and additions to existing dwelling units. Each project is required to obtain the minimum mandatory number of green points specified in Table 2.

**Table 2 – Minimum Green Points Requirements\***

<b>Project Description</b>	<b>Square Footage</b>	<b>Green Point Requirements</b>
<b>Addition to a Dwelling Unit</b>	500-1,000	15
	1,001-2,000	20
	2,001-3,000	30
	3,001 and up	45
<b>Remodel of a Dwelling Unit</b>	500-1,000	10
	1,001-2,000	15
	2,001-3,000	20
	3,001 and up	30

\*For projects that are both an addition and a remodel, add the area of each project together and apply the total area to the Addition to a Dwelling Unit category to calculate the number of Green Points required.

**Green Points Application – To be completed by Applicant. Must read the Green Building and Green Points Guideline Booklet for verification and point option information.**

What does this mean?					
Booklet Page	Allowable Points	Feature	Verification	Sheet or Spec #	Applicant Points
This references the page number in the Green Points Program booklet where this information is located.	This is the maximum amount of points you can earn for this feature.	This refers to the specific Green Points feature you might select. For more information on each feature, consult the Green Building and Green Points Guideline Booklet.	This refers to the documentation needed to verify you are eligible for points for this feature.	Please indicate where this information is included in your application packet.	This column is for the number of points you are applying for.

**B.) Site Development**

The green points options listed in the following section can be applied for individually, or as a whole. Applicants can choose to submit a “Landscape Package” that includes information to satisfy all of the requirements for each option.

Booklet Page	Allowable Points	Feature	Verification	Sheet or Spec #	Applicant Points
<b>1. Landscaping</b>					
	2	Organic Soil Amendments	Inspection at final. Provide copies of receipts.		
	4	Xeriscape Landscaping	Submit landscape plans at application. Inspection at final		
<b>2. Shading of Hardscapes</b>					
	5 (1 per tree)	Save Mature Trees	Submit tree preservation plan at application. Inspection at final.		
	5 (1 per tree)	Plant New Shade Trees	Inspection at final.		
<b>3. Surface Water Management</b>					
	2	Permeable Site	Submit site or planting plan at application. Inspection at final.		
<b>4. High Efficiency Automatic Irrigation</b>					
	2	High Efficiency Irrigation	Submit Water Conservation Rebate Audit at final inspection.		

**C.) Building Rehabilitation**

Booklet Page	Allowable Points	Feature	Verification	Sheet or Spec #	Applicant Points
<b>1. Rehabilitation and/or Retrofitting of Windows and Doors</b>					
	10	Retrofit Existing Building	Plan Review & Site Inspection		

## D.) Waste Management

Booklet Page	Allowable Points	Feature	Verification	Sheet or Spec #	Applicant Points
<b>1. Reuse Existing Building</b>					
	5	Reuse Existing Building	Plan Review & Site Inspection		
<b>2. Remodels, Additions, and Demolition</b>					
	3	Additional Waste Diversion	Plan Review (Attachment C) Submit receipts and Attachment D at final		

## E.) Energy Efficiency

Booklet Page	Allowable Points	Feature	Verification	Sheet or Spec #	Applicant Points
<b>1. Insulation</b>					
	2	Wall Insulation	Designed Plans due at application. Inspected in field.		
	2	Ceiling Insulation	Designed Plans due at application. Inspected in field.		
	2	Basement/Foundation Insulation	Designed Plans due at application. Inspected in field.		
	2	Insulated Pre-Cast Concrete Foundation	Designed Plans due at application. Inspected in field.		
	2	Insulated Pre-Cast Forms	Designed Plans due at application. Inspected in field.		
<b>2. Windows</b>					
	Up to 5	Windows R-Value	Designed Plans due at application. Inspected in field.		
	Up to 5	Windows SHGC	Inspected in field.		
<b>3. Air Sealing (Existing Building)</b>					
	2—5 (See Booklet)	Dependent on comparison to HERS standard	HERS Inspection		
<b>4. Heating, Ventilation, and Air Conditioning Systems</b>					
	3	HVAC Commissioning	Performance Test		
	Up to 10 (See Booklet)	Ground Source Heat Pump	Engineered Designed Plans		
	2	Direct Vent Space/Water Heating	Designed Plans due at application.		
	2	Energy Star Boiler	Designed Plans due at application. Inspected in field.		
	2	Zoned Hydronic Radiant Heating	Designed Plans due at application. Inspected in field.		
	2—5 (See Booklet)	Passive Cooling	Designed Plans due at application.		
	2	Whole House Fan	Designed Plans due at application. Inspected in field.		
	3	Evaporative Cooling System	Designed Plans due at application. Inspected in field.		

5. Water Heating					
	2	Tankless Water Heater	Designed Plans due at application. Inspected in field.		
	2	Point-of-use Water Heater	Designed Plans due at application. Inspected in field.		
6. Lighting and Appliances					
	5	Energy Star Advanced Lighting	Designed Plans due at application. Inspected in field.		
	2	Efficient Light Controls	Designed Plans due at application. Inspected in field.		
	6	Energy Star Appliances	Designed Plans due at application. Inspected in field.		

## F.) Solar

Booklet Page	Allowable Points	Feature	Verification	Sheet or Spec #	Applicant Points
1. Passive Solar Heating Design					
	Up to 12 (See Booklet)	Passive Solar Heating Design	Engineer/Architect Design		
2. Solar Thermal Domestic Hot Water Systems					
	8	Solar Thermal Hot Water Systems	Engineer/Architect Design		
3. Solar Thermal Space Heating or Pool/Spa System					
	3	Solar Thermal Heated Pool/Spa	Engineer/Architect Design		
4. Pre-Plumb for Solar Thermal System Retrofit					
	2	Pre-Plumb for Solar Thermal System	Designed Plans due at application. Inspected in field.		
5. Active Solar Electric (photovoltaic) Systems					
	Up to 12 (See Booklet)	Active Solar Electric System	Designed Plans due at application. Inspected in field.		
6. Pre-Wire for Future Solar Electric (photovoltaic) System Retrofit					
	2	Pre-Wire for Future Active Solar	Designed Plans due at application Inspected in field..		

## G.) Water Efficiency –High Efficiency Fixtures

Booklet Page	Allowable Points	Feature	Verification	Sheet or Spec #	Applicant Points
	Up to 6 (See Booklet)	Water Efficiency- High Efficiency Fixtures	Designed Plans due at application. Inspected in field.		

## H.) Material Efficient Framing and Structure

Booklet Page	Allowable Points	Feature	Verification	Sheet or Spec #	Applicant Points
1. Advanced Framing Techniques					
	2	24" On-Center Framing	Designed Plans due at application. Inspected in field.		
	2	Insulated Headers	Designed Plans due at application. Inspected in field.		
	2	Energy Efficient Roof Trusses	Designed Plans due at application.		

	2	HVAC Ducts within Conditioned Spaces	Designed Plans due at application. Inspected in field.		
	2	Min. 12" roof overhangs	Designed Plans due at application.		
<b>2. Structural Insulated Panels (SIPs)</b>					
	Up to 8 (See Booklet)	Structural Insulated Panels (SIPs)	Engineered Design due at application. Inspected in field.		
<b>3. Structural Alternatives to Wood</b>					
	Up to 8 (See Booklet)	Structural Alternatives to Wood	Engineered Design due at application. Inspected in field.		

### I.) Sustainable Products

Booklet Page	Allowable Points	Feature	Verification	Sheet or Spec #	Applicant Points
<b>1. FSC-Certified Framing Techniques</b>					
	Up to 6 (See Booklet)	Sustainable Wood Products	Supplier Verification in Building Permit Sleeve at final inspection		
<b>2 &amp; 3. Environmentally Preferred Materials and/or Locally Sourced Materials</b>					
	Up to 10 (See Booklet)	Environmentally Preferred Materials & Locally Sourced Materials	Supplier Verification in Building Permit Sleeve at final inspection		

### J.) Indoor Air Quality

Booklet Page	Allowable Points	Feature	Verification	Sheet or Spec #	Applicant Points
<b>2. Mechanical Ventilation</b>					
	5	Mechanical Ventilation	Final Mechanical Inspection		
	1	Kitchen Exhaust Fan	Final Mechanical Inspection		
	1	Timer or humidistat controlled exhaust fan	Final Mechanical Inspection		
	1	Integrated HVAC ventilation	Final Mechanical Inspection		
	2	Heat Recovery Integrated Ventilation	Final Mechanical Inspection		
<b>3. High-Efficiency HVAC Filter</b>					
	1	High Efficiency HVAC Filter	Final Mechanical Inspection		
<b>4. Radon Mitigation</b>					
	Up to 2	Radon Mitigation	Final Mechanical Inspection		
<b>5. Attached Garage Exhaust Fan</b>					
	1	Attached Garage Exhaust Fan	Final Mechanical Inspection		

### K.) Homeowner Information- Operations and Maintenance Binder

Booklet Page	Allowable Points	Feature	Verification	Sheet or Spec #	Applicant Points
	1	Binder	Final Inspection	NA	

**L.) Design Process and Innovation**

Booklet Page	Allowable Points	Feature	Verification	Sheet or Spec #	Applicant Points
<b>1. Green Building Consultants</b>					
	2	Green Building Consultant	Green Building Consultant must Sign Application	NA	
<b>2. Energy Star Builder</b>					
	1	Energy Star Builder	Contractor must Sign Application	NA	
<b>3. Innovation Points</b>					
	Up to 10 (See Booklet)	Innovation Points	Staff Approval	NA	

*Total points:* \_\_\_\_\_

**Green Building Consultant** (please include verification): **Print Name:** \_\_\_\_\_

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

## Supplier verification

### Verification of Accountability by Responsible Party (to be completed by the building project's responsible party/applicant)

By affixing my signature below, I hereby declare and affirm to the city of Boulder that the Green Points options shown below will be provided/executed during the course of the permitted work, and will meet the specifications and requirements of the Green Points program Guideline Booklet. If audited, I will provide all necessary supporting documentation demonstrating that the requirements of the Green Building and Green Points program have been met for the options that have been selected.

Responsible Party \_\_\_\_\_

Date: \_\_\_\_\_

Print Name: \_\_\_\_\_

Project Role/ Title: \_\_\_\_\_

Company Name: \_\_\_\_\_

Signature: \_\_\_\_\_

### Energy Efficiency - Remodels and Additions - ONLY

\_\_\_\_(e)(6)(A) ENERGY STAR Advanced Lighting Package

\_\_\_\_(e)(6)(B) Efficient Light Controls

\_\_\_\_(e)(6)(C) Energy Efficient Appliances ( \_\_Refrigerator, \_\_clothes washer, \_\_freezer, \_\_dishwasher)

### Verification of Accountability by Responsible Party (to be completed by the building project's responsible party/applicant)

By affixing my signature below, I hereby declare and affirm to the city of Boulder that the Green Points options shown below will be provided/executed during the course of the permitted work, and will meet the specifications and requirements of the Green Points program Guideline Booklet. If audited, I will provide all necessary supporting documentation demonstrating that the requirements of the Green Building and Green Points program have been met for the options that have been selected.

Responsible Party \_\_\_\_\_

Date: \_\_\_\_\_

Print Name: \_\_\_\_\_

Project Role/ Title: \_\_\_\_\_

Company Name: \_\_\_\_\_

Signature: \_\_\_\_\_

### Sustainable Products

\_\_\_\_(i)(1) FSC-Certified Tropical Wood or No Tropical Wood

\_\_\_\_(i)(2) Select Environmentally Preferable Materials

\_\_\_\_(i)(3) Select Locally Sourced Materials