

Log #: (CPD use only) \_\_\_\_\_

*This application is for any project that includes a green roof or is requesting an exemption or variance under the Denver Green Roofs Ordinance, found in Article XIII, Chapter 10 of the Denver Revised Municipal Code, which was approved by voters in 2017.*

Project address: \_\_\_\_\_

Building gross floor area (include any proposed additions): \_\_\_\_\_

**Please note this is NOT the same as calculating floor area under the building code. It is only used for determining green roof coverage requirements.** To calculate, measure the total area of each floor in the building (above and below grade). Measure from the exterior of the main wall of each floor. Include voids at the level of each floor, such as an atrium, mezzanine, stairwell, escalator, elevator, ventilation duct or utility shaft, in the measurement. Do not include areas used for parking or loading. Then, sum the areas of all floors.

Class of work: (check one)     New building     Addition     Roof repair/replace only

Scope of work—clearly indicate if this includes a new roof, roof repair, or roof replacement:

**ROOF PERMITS FOR PROJECTS EXEMPT FROM THE GREEN ROOFS ORDINANCE**

Select which of the below exemptions applies to your project and complete the “roof information” section below for a roof permit. Then skip to the signature and submittal instructions on page 3.

- This project submitted a complete building permit application before January 1, 2018. LOG #: \_\_\_\_\_
- This project submitted a complete site plan application before January 1, 2018. SDP #: \_\_\_\_\_
- This is a residential building that is 4 stories or less or has a height of 50 feet or less (whichever is greater).  
# of stories: \_\_\_\_\_ or Building height: \_\_\_\_\_
- This is a commercial greenhouse at grade.
- This is a temporary structure.
- This is an air-supported structure.
- This is an existing building where complying with the ordinance would require major structural alterations. (Make sure to include a structural analysis with this application per the guidance on page 5.)
- This project meets the definition of a “roof recover” per the Green Roof Rules and Regulations.

**Roof information**

Roof type: (select one)     3-Tab     T-Loc     Built-up     Tile     Rolled  
 Metal     Modified     Dimension/Architect     Urethane     Cedar  
 Shake-Light     Shake-Medium     Shake-Heavy     Membrane     Other

# of roofing squares: \_\_\_\_\_ Brand name: \_\_\_\_\_ Brand specification #: \_\_\_\_\_

Contractor license #: \_\_\_\_\_ Company name: \_\_\_\_\_ Supervisor certificate #: \_\_\_\_\_

Site contact to gain entry for inspections: \_\_\_\_\_ Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Valuation of work (for projects not doing a green roof—include labor, profit, overhead, materials, equipment & install): \$ \_\_\_\_\_

Contractor remarks:



**GREEN ROOF SYSTEM (Complete this section if your project is not exempt.)**

Total roof area: \_\_\_\_\_ sq. ft.

Estimated vegetated area: \_\_\_\_\_ sq. ft.

Estimated solar energy collection area (if any): \_\_\_\_\_ sq. ft.

Total percent of roof covered by a green roof/vegetated system: \_\_\_\_\_ %

Total percent of roof covered by solar: \_\_\_\_\_ %

Does the coverage conform to the requirements of the Denver Green Roofs Ordinance?  Yes  No

Green roof system type:  Extensive  Intensive  Other:

The maximum slope of the roof is: \_\_\_\_\_

Depth of growing media (in inches): \_\_\_\_\_

Will the roof be occupiable by the building's residents?  Yes  No

Will it be accessible to the public?  Yes  No

Design dead load of the *green* roof: \_\_\_\_\_ lb./sq. ft.

If occupiable, design live load of the *entire* roof: \_\_\_\_\_ lb./sq. ft.

Is the insulation above or below the roof membrane?  Above  Below

If insulation is above the roof membrane, how is it secured:

Is a continuous root barrier provided?  Yes  No

Is there a drainage mat below the soil and above the roof system?  Yes  No

Is there a filter between the soil and drainage layer?  Yes  No

Is there a backflow assembly device for irrigation?  Yes  No

Does the system comply with wind uplift provisions of ANSI/SPRI RP-14 2016 Wind Design Standard for Vegetative Roofing Systems?  Yes  No

Has the applicant received written approval from the state engineer to retain or collect rainfall for re-use on the subject property?  Yes  No

**Supplemental irrigation.** Peak season demand (gallons/minute): \_\_\_\_\_

Total gallons/year: \_\_\_\_\_ Gallons per sq. ft. of vegetated area/year: \_\_\_\_\_

**GREEN ROOF DESIGN AND INSTALLATION (Complete this section if your project is not exempt.)**

List the companies/individuals involved with the project (as applicable). If you do not know who the contractor(s) will be, please be prepared to submit their names and license numbers before permit(s) can be released.

	Name (please print)	Email	License #	Supervisor cert. #
<b>Project architect:</b>				
<b>Green roof designer: (if not project architect)</b>				

<b>Green roof contractor:</b>				
<b>Structural engineer:</b>				
<b>Irrigation contractor:</b>				
<b>Electrical engineer: (if solar is included)</b>				
<b>Electrical contractor: (if solar is included)</b>				
			<i>State elec. license #:</i>	

APPLICANT SIGNATURE	
I have reviewed the Denver Green Roof Construction Standard, as set out in Section 10-303 of Article XIII, Chapter 10 of the Denver Revised Municipal Code, and this submittal contains all necessary plans and details to show compliance with the construction standard.	
_____ <i>Name (please print)</i>	_____ <i>Relationship to project</i>
_____ <i>Signature</i>	_____ <i>Date</i>

**How to submit this application**

- If your project is EXEMPT from the green roof requirements (but not because major structural work would be necessary—see the “Request for a variance or exemption due to major structural alterations” section below)...
  - Make sure page 1 is filled out completely and email this application to [QuickPermits@denvergov.org](mailto:QuickPermits@denvergov.org).
  - Staff will review your exemption request to confirm the project is exempt. Once confirmed, you will receive an email reply with instructions for paying permit fees online and printing your roof permit.
- If your project is NOT EXEMPT from the green roof requirements, if major structural work would be necessary to comply, or if you wish to request a variance...
  - Fill out this application completely, including the section below for variance requests if applicable.
  - Assemble the items listed on the Green Roof Submittal Requirements checklist (pages 4-5).
  - Submit all materials to the Log In line at the permit counter. Visit [denvergov.org/DS](http://denvergov.org/DS) to make a Log In appointment.

**Request for a variance or exemption due to major structural alteration**

If you are seeking a variance from the coverage of available roof space (the size of the green roof), in addition to the above application filled out to the extent feasible, please attach a letter or written statement that details the following:

1. Description of the project and the type of variance being requested
2. A detailed rationale for the green roof variance request
3. The green roof area proposed, if any, and
4. The amount of cash-in-lieu fees that are required.

For new and existing buildings or building additions subject to the requirements of the Denver Green Roof Construction Standard found in Article XIII, Chapter 10 of the Denver Revised Municipal Code, submit the documentation listed below to Log In for review. Include the below documentation in the building permit submittal for any new building or addition, or log in these documents on their own for projects doing a roof replacement that will include a green roof.

The submittal requirements below are categorized into two sections depending on project type:

1. New and existing buildings able to comply with the Denver Green Roof Construction Standard, or
2. A request for an exemption for roof replacements on existing buildings where major structural alterations would be needed in order to comply.

### 1. Submittal requirements for projects complying with the Denver Green Roofs Construction Standard

- Green roof declaration form
- Drawings as applicable for all architectural, structural, mechanical, plumbing, and electrical systems serving the roof
- A roof plan showing the location of all roof-mounted equipment, including penthouses, green roof vegetative coverage, the location of any solar energy collection system(s), roof access paths, roof slope, parapet details, scuppers, drains, and other relevant information. *(This must also be submitted as part of a formal Site Development Plan submittal, if applicable.)*
- Drawings, details, and electrical plans for any solar energy collection system used as part of a combination green roof. If the solar energy collection system does not meet the definition of "Solar panels, flush-mounted" per Section 13.3 of the Denver Zoning Code, then a zoning review and zoning permits will also be needed. This may occur as a simultaneous building and zoning review, if requested by the applicant.

Additional submittal requirements for a zoning review of non-flush-mounted solar panels include the following:

- Building elevation(s) that depict the solar panels. These must be fully dimensioned, including depicting the height from the applicable zoning base plane to the top of the floor/structure, and must show all proposed mechanical equipment and solar panels.
- Landscape plans prepared by a licensed Colorado landscape architect for the green roof. These must include planting plans, irrigation plans that meet Denver Water's requirements, material and layout plans showing the growing media and rock or paver ballast areas, and details that show each key component, layer, and transition zones between materials and at roof drains. *(These must also be submitted as part of a formal Site Development Plan submittal, if applicable.)*
- A signed and stamped report prepared by a licensed Colorado engineer indicating the wind uplift pressures being designed for. The report must include how pressures were determined and describe how the design of the green roof addresses these pressures. The dry weight of the growth media can be determined by ASTM E2399 - Standard Test Method for Maximum Media Density for Dead Load Analysis of Vegetative (Green) Roof Systems.
- Structural calculations for the roof, including the design dead load of the green roof, and if occupiable, the design live load for the entire roof.
- A green roof establishment and maintenance plan. Define programs of routine maintenance and inspection sufficient to ensure that that the green roof components perform their required functions and vegetation remains alive.
- All other plans and/or details needed to demonstrate compliance with the Denver Green Roof Construction Standard.
- NOTE:** Projects that opt to do a green roof/solar combination per the Denver Green Roofs Ordinance, or industrial buildings that are using option (b) per Section 10-301 of the ordinance, would need to obtain written approval from the state engineer to meet the ordinance's requirement for retaining or collecting rainfall for re-use on the subject property. Alternatively, these projects may request a variance from the water collection and re-use provision.

*Additional requirements for existing buildings complying with the Denver Green Roofs Construction Standard*

- Denver Water Irrigation and Landscape Plan Review  
Go to [denverwater.org/contractors/construction-information/plan-reviews/irrigation-plan-submittal](http://denverwater.org/contractors/construction-information/plan-reviews/irrigation-plan-submittal) for details on how to submit landscape and irrigation plans, the irrigation water budget, and other information to Denver Water for their review. Submit to Denver Water as soon as your project is logged into CPD. Denver Water's approval is required before CPD can release permits for green roof construction.
- Sewer Use and Drainage Permit (SUDP).  
Submit the roof plan, a site plan, and plumbing/irrigation plans to [WastewaterPermits@denvergov.org](mailto:WastewaterPermits@denvergov.org) as soon as your project is logged into CPD. An SUDP is required before CPD can release permits for green roof construction.

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**2. Submittal requirements to request an exemption for a roof replacement or building addition where major structural alterations would be needed in order to comply with the Denver Green Roofs Ordinance**

- Green roof declaration form
- Evidence of major structural alterations must be provided by a structural analysis signed and stamped by a Colorado registered professional engineer specializing in structural engineering. The analysis needs to document each of the following:
  - Available roof area
  - Type of existing roof system
  - Percent of coverage of the available roof area required based on the building's gross floor area
  - Determined load capacity of the existing roof structure. In the absence of specific knowledge pertaining to the actual load capacity, the load capacity of the roof structure and supporting construction may be assumed to be sufficient to support the environmental loads and structural dead loads of the code under which the building was built.
  - Anticipated load and characteristics of the green roof. Gravity loads must be calculated using ASTM E2397.05 - Standard Practice for Determination of Dead and Live Loads Associated with Green Roof Systems.
  - A narrative describing what major structural alteration would be required to support the load of the green roof.
  - The amount of applicable percentage of coverage of available roof space that can support a green roof without requiring major structural alteration. If zero, and staff concurs, then the project will be exempt. This must be stated by the engineer as a summary of the findings in the conclusion of the analysis. For example, *It is therefore our conclusion that no portion or only xx% of the existing roof can support a green roof without the likelihood that major structural alterations will be necessary to support the additional loads.*
  - Size of the proposed green roof and size of the proposed area for PV, if any