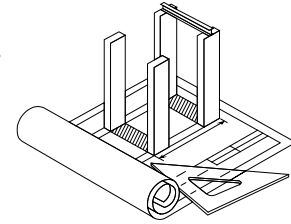


**CLEAR CREEK COUNTY BUILDING DEPARTMENT
REQUIREMENTS FOR A
SINGLE FAMILY RESIDENCE**



After all of your other permits have been issued and your construction plans and site plan have been approved by the other Departments in the Land Use Group, you will then be ready to submit for your permit to build. Working in partnership with you, the Building Department staff will help you to reach your goal of having a safe and comfortable mountain residence.

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Building Department Directory:

Anna Easley, Secretary - (303) 679-2333

Lynette Kelsey, Plans Examiner, Code Enforcement - (303) 679-2343

Debra Kirkham, Building Official - (303) 679-2344

Fax - (303) 569-1103

e-mail address - bldg@co.clear-creek.co.us

Web site - www.co.clear-creek.co.us/index.aspx?nid=95

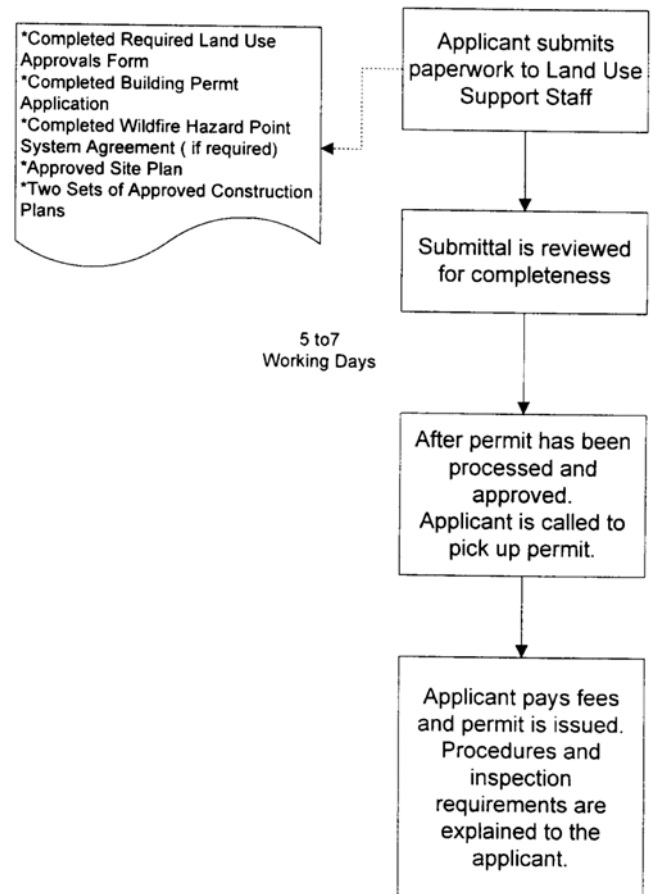
BUILDING DEPARTMENT APPLICATION SUBMITTAL CHECK LIST AND FLOW CHART

Required Submittal Documents and Land Use Approvals:

- Completed Land Use Approval Form
- Completed Building Permit Application
- Completed Wildfire Hazard Point System Agreement, if required.
- Approved site plan
- Copy of completed Zoning Approval Form
- Construction Site Sanitation Agreement
- Two sets of construction plans. Detail shown on plans must be drawn to scale and include all of the following:
 - Wet stamp of Licensed Colorado Engineer or Architect on all pages showing structural detail;
 - Edition of the Code(s) used;
 - Snow load and wind load structure is designed for;
 - Energy Efficiency Compliance;
 - Floor plans of all floors, finished or unfinished;
 - Elevations of all sides of structure;
 - Complete detail for Engineered Foundation System;
 - Complete detail for perimeter foundation drain;
 - Complete detail for all framing, incl. floor framing for all floors, roof framing or truss specs and layout from truss manufacturer, stair detail, decks, etc;
 - Braced Wall design and anchoring to foundation;
 - Listing of all fasteners, hangers, etc;
 - Cross section(s) of structure to show wall framing, all insulation detail including foundation/slab insulation, roof assembly, etc;
 - Window and door schedule, including U-factors;
 - Detail of Thermal Envelope;

- Insulation for and locations of all ducts passing through unconditioned spaces;
- Locations of all plumbing fixtures;
- Location of all water heaters, furnaces, boilers, wall heaters, etc;
- Locations and types of gas, wood or pellet stoves, fire places or inserts;
- Locations of all required Smoke Detectors;
- Locations of all required Carbon Monoxide Detectors;
- "Class A" rated roof material or rated assembly;
- Rated assembly for all fire resistive construction measures chosen for Wildfire Hazard Point System Agreement.

Flow Chart:



BUILDING CODE INFORMATION

The County has adopted the *2009 International Residential Code* for all new Single Family Residences, Duplexes and Town Homes. All construction must comply with this code and your construction plans must be reviewed and stamped by a Colorado licensed engineer or architect. The Building Department will:

- ↻ process your building permit application,
- ↻ review your construction plans,
- ↻ calculate your fees,
- ↻ issue your permit upon payment of the fees,
- ↻ schedule and perform the necessary inspections, and
- ↻ provide you with a Certificate of Occupancy when all of the work has been completed in compliance with all applicable codes and regulations.

WILDFIRE HAZARD MITIGATION

The Wildfire Hazard Mitigation Plan was originally adopted in 1995 as an amendment to our Building Code. It was established in order to address the increasing hazards of the spread of our development into the less accessible and more heavily forested areas of our County. The Plan is a four fold approach to reducing the hazards in those areas:

- 1 - requires all new development and re-roofing to use a "Class A" rated roof. Because wood shakes and wood shingles are not "Class A" rated materials, special rated assemblies are required for wood roofs;
- 2 - requires all new development and additions greater than 400 sq. ft. to develop a "Defensible Space" around the existing and/or proposed structure(s);
- 3 - for properties where either the access road or the proposed or existing driveway does not nor can not meet the minimum standards, additional mitigation must be done in order to reduce the hazards resulting from either a structure fire or wildfire. These measures are to protect both the residents of the property and the firefighters responding to the fire call. The Point System Agreement was developed to help the property owner achieve the additional mitigation.
- 4 - requires all structures 4400 sq. ft. or greater to be equipped with an approved monitored automatic suppression system.

The Defensible Space Plan will be developed by the Site Development Inspector and is explained in detail in that Department's information packet. The Site Development Inspector will also determine, at the time of your driveway permit site visit, whether the Wildfire Hazard Point System Agreement will be required. The Building Department is then notified and the Agreement is initiated and mailed to the property owner or to the general contractor to be completed and later submitted with the building permit documents.

CLIMATIC AND GEOGRAPHIC DESIGN REQUIREMENTS

The following criteria must be used to design for residential construction for Clear Creek County. This will ensure that homes are designed to be strong enough to withstand the natural forces common to our mountainous county, such as snow, wind and flooding, and to support both comfortable homes and energy conservation. You will need to provide the criteria to your licensed Engineer or Architect, so that your residence can be designed to be in compliance with the code requirements.

**** THE SNOW LOAD AND WIND LOAD MUST BE STATED ON ALL BUILDING CONSTRUCTION PLANS SUBMITTED WITH APPLICATIONS FOR BUILDING PERMITS. ****

CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA TABLE

Roof Snow Load	Wind Speed	Seismic Design Category	Subject to Damage from			Winter Design Temp	Ice Shield Under-layment Required	Flood Hazards	Air Freezing Index	Mean Annual Temp
			Weathering	Frost Line Depth	Termite					
Varies-see Table Below*	Varies-see Section R301.2(4).1	"B"	Severe	36" Minimum	None to Slight	1°F	Yes; see Section R905.1	2007 FEMA maps	2162	40°F

SNOW LOADS AND WIND LOAD REQUIREMENTS

The Snow Load design requirements for structures on your property will be determined by the elevation of your property. Please refer to the following table for the Snow Load requirements:

BASIC SNOW LOAD DESIGN* ROOF SNOW LOAD REQUIREMENTS IN POUNDS PER SQUARE FOOT (PSF)

Elevation (feet above sea level)	Basic Snow Load (PSF)	Elevation (feet above sea level)	Basic Snow Load (PSF)
6,500 to 6,750	35	9,001 to 9,250	85
6,751 to 7,000	40	9,251 to 9,500	90
7,001 to 7,250	45	9,501 to 9,750	95
7,251 to 7,500	50	9,751 to 10,000	100
7,501 to 7,750	55	10,001 to 10,250	110
7,751 to 8,000	60	10,251 to 10,500	120
8,001 to 8,250	65	10,501 to 10,750	128
8,251 to 8,500	70	10,751 to 11,000	135
8,501 to 8,750	75	11,001 to 11,500	150
8,751 to 9,000	80		

Please note - No snow load reductions shall be approved.

Wind Load Design

The Basic Wind Speed for Clear Creek County is 100 Mph, Exposure C. See Special Wind Map for areas requiring 110 MPH, Exposure C. Reference Section R301.2(4).1*

*The Snow Load and Wind Load requirements for a specific property can be found on Clear Map, the County online mapping service at <http://map.co.clear-creek.co.us/SLV/Viewer.html?Viewer=ClearMap&LayerTheme=Wind Speeds>

Energy Efficiency Requirements

All new residential construction must comply with the provisions in Chapter 11 of the *2009 International Residential Code* and the *2009 International Energy Conservation Code* as adopted and amended by Clear Creek County. Due to our higher elevations and colder winters, our county is designated as **Climate Zone 7**. Any of the following three options may be used to design the new residence to be in compliance with this Code.

Option #1 - The prescriptive insulation requirements for **Climate Zone 7** are found in Table N1102.1 and are as follows:

Table N1102.1

Insulation and Fenestration Requirements By Component^a

Climate Zone	Fenestration U-Factor	Skylight ^b U-Factor	Ceiling R-Value	Wood Frame Wall R-Value	Mass Wall R-Value	Floor R-Value	Basement ^c Wall R-Value	Slab ^d R-Value and Depth	Crawl Space ^e Wall R-Value
7	0.35	0.60	49 ^e	21	19	30 ^f	10/13	10, 4 ft	10/13

a. R-values are minimums. U-factors are maximums. R-19 insulation shall be permitted to be compressed into a 2X6 cavity

b. The fenestration U-factor column excludes skylights.

c. The first R-value applies to continuous insulation, the second to framing cavity insulation; either insulation meets the requirement.

d. R-5 shall be added to the required slab edge R-values for heated slabs.

e. R-38 is permitted when the full height of uncompressed R-38 insulation extends over the wall top plate at the eaves.

f. Or insulation sufficient to fill the framing cavity, minimum R19.

Efficient Heating Unit and Duct Sizing - In order to ensure that the heating unit and ducts are sized correctly, Manual J and Manual D calculations are required to be submitted.

Option #2 - As an alternative, compliance may also be demonstrated by using the calculation program known as REScheck, provided by the Department of Energy's Model Energy Code on their web site, <http://energycode.pnl.gov/REScheckWeb> and submitting the printout and inspection checklist.

Option #3 - Another alternative way to demonstrate compliance is through certification from an approved national, state or local energy efficiency program.

MANUFACTURED HOMES

Rather than building the home on site, some owners choose to purchase homes, which have been partially constructed in factories, inspected by State Inspectors and transported to the building site in two or more modules and are then assembled on the site built foundation, basement or first story. These manufactured homes may be constructed to meet either the International Residential Codes or HUD Codes, but they must also meet the requirements resulting from our colder climate, higher winds and more snow. In addition to the other submittals, a letter from the manufacturer addressing each of the following issues is required:

- 1) The Code the residence will be built in conformance with;
- 2) The Snow Load and Wind Load the residence will be designed to;
- 3) The residence will have a Class A rated roof and whether it will be installed in the factory or at the building site;
- 4) The energy efficiency compliance method used;
- 5) When HUD Codes are used for the designing and building, the manufacturer must certify that "the home meets or exceeds, on an equivalent performance engineering basis, standards established by the county building code".

This assures both the home owner and the Building Department that the proposed manufactured home will meet the code requirements for our county.

REQUIRED BUILDING INSPECTIONS

After your permit has been approved and issued, you will begin construction and must have the construction inspected at various stages. You will receive complete instructions on how to request all of the necessary inspections when the permit is being issued. The inspections required by the *International Residential Code* can be found on our Website at www.co.clear-creek.co.us/index.aspx?NID=365

TERM OF THE PERMIT

All construction and required inspections must be completed within two years of the date of issue or your permit will expire. If the project cannot be completed within that time frame, you may be eligible for an extension of an additional 180 days, provided the permit has not already expired and a letter explaining the delay and requesting the extension is submitted. THE INTERNATIONAL RESIDENTIAL CODE ALLOWS ONLY ONE EXTENSION TO BE GRANTED.

CLEAR CREEK COUNTY BUILDING DEPARTMENT
P. O. BOX 2000
GEORGETOWN, CO 80444

BUILDING PERMIT APPLICATION FOR NEW SINGLE FAMILY RESIDENCES

This application will be accepted when fully filled out and signed by the owner of record or his(her) designated agent.

Owner(s): _____ Phone (H) _____ (W) _____

Mailing Address: _____

Email Address: _____

Contractor: _____ Phone _____

Mailing Address: _____

Email Address: _____

Legal Description: _____

Parcel #: _____

Use of Permit: _____

BUILDING DIMENSIONS:

Basement: Unfinished Sq. Ft. _____ Open Deck(s) Sq. Ft. _____

Finished Sq. Ft. _____ Covered Porch(es): Sq. Ft. _____

Ground (First Floor): Sq. Ft. _____ Garage Attached: Sq. Ft. _____

Second Floor: Sq. Ft. _____ Other (Description): Sq. Ft. _____

Third Floor: Sq. Ft. _____

Total Living Space (Finished and Unfinished): _____

Type of Building: Brick Block Frame Other _____

Number of Stories _____ Number of Rooms _____ Number of Units _____

Type of Heat: Electric LP Gas Natural Gas Other _____

Your Total Building Cost (materials and labor, but excluding cost of land) _____

I AGREE THAT THIS IS AN APPLICATION ONLY. THE DESIGNATED STRUCTURE WILL NOT BE OCCUPIED OR USED UNTIL A FINAL INSPECTION HAS BEEN APPROVED BY THE CLEAR CREEK COUNTY BUILDING OFFICIAL. I ACKNOWLEDGE THAT ALL WORK WILL BE DONE IN ACCORDANCE WITH THE 2009 INTERNATIONAL RESIDENTIAL CODE, AS ADOPTED BY THE CLEAR CREEK BOARD OF COUNTY COMMISSIONERS. A CERTIFICATE OF OCCUPANCY WILL NOT BE ISSUED UNTIL ALL WORK IS FOUND TO BE IN COMPLIANCE WITH ALL CLEAR CREEK COUNTY BUILDING CODES AND REGULATIONS.

Owner/Applicant's Signature _____ Date _____