PIKES PEAK REGIONAL BUILDING DEPARTMENT

Commercial Plans Review

This packet is provided to assist in assembling a successful plans review submittal. The information is a summary of construction, mechanical, plumbing, electrical and elevator plan review requirements. In addition to Pikes Peak Regional Building Department, consult government departments in the jurisdiction of the site for additional criteria (a contact list is provided on page 8 of this packet.)

PIKES PEAK REGIONAL BUILDING DEPARTMENT

The Department enforces building codes through plan reviews and site inspections; tests and grants licenses to building and mechanical contractors, registers electrical and plumbing contractors who are licensed by the state of Colorado; oversees floodplain management; assigns new addresses; and issues permits to build, alter, convert, repair, move or demolish structures. Pikes Peak Regional Building Department provides services to:

El Paso County	Manitou Springs
Colorado Springs	Monument
Fountain	Palmer Lake
Green Mountain Falls	Woodland Park (city limits only)

COMMERCIAL PLAN REVIEW OVERVIEW

"Commercial" is defined as any type of building except one- and two-family dwellings, townhomes, and their accessory structures which are classified as "Residential." Condominium projects are classified as "Commercial."

A plan review fee is paid when the plan submittal is checked in at the front counter. The fee is calculated as a percentage of the Building Permit fee (refer to the current permit fee schedule). Additional fees may be incurred when a plan requires three or more reviews. Review times are subjective as we review every plan in the order it is received and can vary due to the project scope and if plans must be amended and rerouted through departments. There are various submittal options available depending on the scope of the project, contact the department to discuss.

In addition to Pikes Peak Regional Building Department, governmental departments in the site jurisdiction review plans for zoning, fire, engineering, traffic engineering, utilities, water, waste water, and health and environmental criteria.

Before checking in plans, make certain all information is included and accurate. Plans cannot be amended until the conclusion of the review process that includes the above governmental departments. Incomplete or inaccurate information will require correcting and resubmitting plans for another review which will cause a delay.

PLAN REVIEW SUBMITTALS — One complete set is required for plan review

- Code Study Form (http://www.pprbd.org/plancheck)
- Approved Development plans
- Approved Final Landscape plans
- Final plat
- Approved Grading & Erosion Control plans
- Approved water plans
- Utility plans
- Architectural plans
- Mechanical plans
- Plumbing plans
- Electrical plans
- Structural plans with soils report

RESUBMITTAL PROCEDURES

Plans are required to go through the entire initial review process the before they can be checked back out to the applicant. Once that initial review has occurred, the applicant will need pick the plans up from our office. If corrections are needed in order the complete the plan approval, the corrections can either be done as markups or page replacements. If the corrections needed are minor and can be done with a handwritten note, the DESIGN PROFESSIONAL OF RECORD can make the change then date and initial the change on the existing sheet. If the correction warrants a page replacement, the new page is to be inserted into the plan set and the old page removed. ALL old pages are to be returned with the corrected set upon plan resubmittal, regardless of the reason the page was replaced. This procedure is to occur PRIOR to the plan being resubmitted.

Basic design information

CODES

Jurisdictions served by Pikes Peak Regional Building Code have adopted the following codes:

2011 Pikes Peak Regional Building Code (PPRBC)

2009 International Building Code (IBC)

2009 International Existing Building Code (IEBC)

2009 International Energy Conservation Code (IECC)

2009 International Mechanical Code (IMC)

2009 International Fuel Gas Code (IFGC)

2012 International Plumbing Code (IPC)

2014 National Electrical Code (NEC)

2003 ICC/ANSI A117.1 Accessibility Standard

ASME A17.1, 2004 Edition, Safety Code for Elevators & Escalators

ASME A17.3, 2002 Edition, Safety Code for Existing Elevators & Escalators

The International Fire Code and amendments are adopted by the Fire authority. Plans are reviewed for compliance by the Zoning and Fire authorities. Contact those agencies directly for plan submittal requirements (see page 8).

The following criteria must be included on contact documents:

SNOW LOADS

Grade Plane — Average elevation of finished ground level adjacent to the building at exterior walls.

Flat Roof Snow Load — Building structure is designed for the specified uniform snow load, and cannot act concurrently with unbalance loading and drifting. Load may be reduced slope per ASCE 7-05, no other reductions are permitted.

Unbalanced Loading & Drifting — Building structure is analyzed for drifting per ASCE 7-05. The specified ground snow load (p_g) is used to establish a new flat roof snow load (p_f) for this analysis only. The new value (p_f) is then used in the unbalanced loading and drifting calculations per Section 7.6, ASCE 7.

Grade plane	**Below 7000'**	**At or above 7000'**
	Flat roof snow load — p_f : 30 psf uniform Unbalanced load & drifting — p_g : 20 psf	Flat roof snow load — p_f : 40 psf uniform Unbalanced load & drifting — p_g : 27 psf

Design factors

Exposure Factor C_e : 1.0
Thermal Factor C_t : 1.0
Importance Factor I : 1.0

} Minimum based on Occupancy Category per Table 1604.5

WIND LOADS

Basic wind speed 100 mph (3-second gusts).
Exposure category Exposure C required

EARTHQUAKE LOADS — *Code sets spectral response factors and cannot be numerically less than the specified values.*
Short period spectral response S_s : 18.5%
1-Second spectral response S_1 : 5.9%

LIVE & DEAD LOADS — *Refer to Code*

Preparing the commercial plans submittal

PROFESSIONAL SEALS & STAMPS
The seal of a design professional licensed by the state of Colorado is required on each sheet of the commercial plans.
The seal, wet ,raised, or electronic, must be signed and dated by the design professional.
Cut sheets and manufacturer's details must bear a seal.
Soils reports may bear seals on the cover only.

COVER SHEET
The following information is required on the Cover Sheet of the plans submittal package.

Project description
Site address
Name, address, phone numbers (include all design professionals associated with the project)
Sheet legend
Vicinity map
Code Study (see below)

CODE STUDY
(provided on plans, *in addition to* the Code Study Form)

Scope of work — If the scope is self evident, a more definitive description is not required. If the submittal is part of a phased project, such as core/shell or tenant finish, the scope of work must be clarified in a written or graphical description, or both (*see next page*).

Overall building description
- Total building area in square feet
- Height
- Number of levels (including basements)
- Area of each level in square feet

Site description of property
- Minimum distance to lot lines (platted, assumed, or middle of ROW) for each side of building – measured at right angles from the face of the wall.

Building Code Analysis
- Occupancy classification
- Mixed Occupancies, include all that apply:
  - Accessory use
  - Non-separated uses
  - Separated uses
  - Combined
- Area in square feet of each occupancy, tabular or graphically
- Required occupancy separation
- Type of Construction
- Mixed types of construction, *provide the following*:
  - Area in square feet of each type of construction
  - Any required Fire Walls

Fire Areas
- Area in square feet of each "Fire Area" as defined in Code

Presence of fire sprinklers & reasons
Include all that apply:
- Allowable area/height
- 1-hour fire resistive substitution
- Basement only
- Required by IBC
- Required by other than IBC

Basic allowable area

Allowable area increase
- Frontage
- Sprinklers
- Multistory

Fire resistive requirements
Refer to Code

Egress requirements
- Occupant load calculations
- Exit width calculations
- Number of exits required (total for the building and for each area of consideration)
- Door hardware as required

Plans reviewed in phases

Based on the scope of the work, a phased plans submittal may be accepted, but must adhere to the limited components and meet the preliminary criteria required to obtain a "foundation only" permit.

FOUNDATION ONLY — Provide one set of plans for review to include the following:

- Development plan approved by zoning in site jurisdiction
- Civil plans
  - Water approved by purveyor
  - Wastewater approved by purveyor
  - Electrical approved by purveyor
  - Landscape plan approved by zoning/planning in site jurisdiction
  - Grading erosion control plan approved by zoning/planning in site jurisdiction
- Soils Report*
- Foundation design*
- Partial structural design specifying loads to foundation, material specifications and design criteria*
- Architectural drawings to include:
  - Code Study* (page 3 in this packet)
  - Dimensioned floor plan for each level drawn to scale and proposed area uses indicated
  - Elevation drawings for all building sides

** Requires stamp, seal and signature by a design professional licensed by the state of Colorado*

FOUNDATION ONLY PERMIT is limited to the following scope of work:

- Below grade construction of piers, footers, foundation walls, pads and related components
- Basement slab including recessed floor or elevator pits (no above grade structure or walls)
- Underground plumbing and electrical conduit, but no wiring
- Site work and utilities permitted by other agencies or departments (but not within building perimeter)

SUPERSTRUCTURE — Plans include the "Foundation Only" plan components as well as:

- Complete structural design to include all framing plans, sections, details.
- Roof covering and drainage
- Exterior walls and finish

Note: To be eligible for a "Superstructure" permit plans cannot include interior finishes, non-bearing walls, mechanical, electrical or plumbing with the exception of temporary power or heating during construction. In addition, fire protection systems are limited to the requirements of Code. Shafts, elevators and stair enclosures cannot be included unless they are integral to the structure.

CORE/SHELL — Plans include the "Foundation Only" and "Superstructure" plan components and core elements divided into two categories, multistory and single story, below.

MULTISTORY plans such as office buildings, hospitals, condominiums, etc. may include:

- Stair enclosures
- Shafts
- Electrical, elevator and mechanical rooms and equipment
- Mechanical, Electrical and Plumbing completed in public areas such as lobbies, corridors and restrooms

SINGLE STORY plans, such as a retail strip mall where there is no common space, may include:

- Mechanical equipment, gas lines and duct penetrations through the roof or exterior walls
- Electrical service, electrical panels and basic lighting fixtures
- Plumbing stubs

Note: To be eligible for a Core/Shell permit, plans cannot have any finish work in a tenant space including mechanical, electrical or plumbing build outs, and dropped or finished ceilings.

Commercial plans require the following information

Architectural plans are drawn to a minimum 1/8" scale on a minimum 18" x 24" size material. Include all that is applicable to the project including but not limited to:

ARCHITECTURAL

Demolition plan *if applicable*
IECC/ComCheck *if applicable*
Floor plans
- Graphically indicate the scope of work
- Provide dimensions and scale
- Label proposed use of each space
- Proper exits (page 7 in this handout)
- Fire-rated vertical assemblies (page 7 in this handout)
- Indicate egress travel distance (page 7 in this handout)

Reflected ceiling plans
- Ceiling finish
- Fire resistance, if any

Exterior elevations
- Indicate roofing material and slope
- Show finished grade

Sections
- Indicate fire-rated horizontal assemblies

Details
- Wall types
- Windows
- Stairs
- Rest-rooms dimensioned for accessibility standards

Door schedules
- Door and frame rating as required
- Hardware schedule

Structural
- Specifications & design criteria (page 2 in this handout)
- Foundation plan with soils report
- Floor framing plan
- Roof framing plan
- Structural sections and details

MECHANICAL

All mechanical equipment
- Listing/application
- Size
- Location
- Support
- Access
- Clearances

Air supply and return for occupants
- Ventilation of outside air based on use of structure

Environmental exhaust
- Bath, shower, toilet, smoking rooms, etc.

Special exhaust systems including:
- Commercial food preparation with or without hoods
- Hazardous, flammable and/or corrosive materials
- Smoke control

Duct systems: single or multi-zone
- Material
- Size
- Support
- Location
- Insulation/sealing

Combustion air/Venting
- Provided for gas fired appliances
- Venting of gas fired appliances

Safety devices location and application including:
- Fire/smoke dampers
- Smoke detection shut down

Gas piping systems
- Material
- Support
- Location
- Identification labeling
- Size and shut-off/pressure regulators

Refrigeration piping systems
- Material
- Support
- Location based on types and amounts of refrigerants

Mechanical refrigeration room detection alarm
- Based on types and amounts of refrigerants
- Use of structure

Special conditions
Coordinated at construction review to include:
- Mechanical equipment weighing more than 300 pounds that is located on roof or supported by structure other than a concrete floor
- Shafts required for ducts penetrating floors or rated assemblies and dampers
- Special room construction for mechanical equipment greater than 400 MBH and refrigeration room

(continued)

Commercial plans require the following information (cont.)

PLUMBING

Designed to the **Colorado Plumbing Code** as adopted by the Colorado State Plumbing board

- Engineer stamped plumbing sheets
- Minimum 1/8" scale drawings
- Grid and column lines coinciding with architectural plans
- Individual "P" pages not combined with other trades
- Roof drain layout on "P" page
- Gas piping is to be on "M" pages

DMV, Water and Roof Drain Piping

- Discernable plan view drawing with floor plan, isometric drawings for multi floor applications
- All pipe sizes and water pipe size analysis data
- Show connections to existing piping if applicable
- Materials not specified will be assumed to be the minimum allowable by Code

Fixture schedule to include

- All fixures and equipment relevant to the plumbing system (including owners furnished)
- Manufacturer's name and model
- Accessible fixtures as needed
- Faucets with GPM and backflow preventers as needed
- Trap primer information

Miscellaneous

- Proper fixture count
- Expansion tanks for water heaters
- GPM discharge rates with cycle length for any equipment or pumps requiring an indirect waste connection
- Indirect waste receptor dimensions if site built (trenches, pits, etc.)
- Discernable detail drawings
- Details or notation concerning rated wall penetration solutions
- Notation for compliance with hot and tempered water requirements
- Hammer arrestors for quick closing valves

ELECTRICAL

- **See Commercial Plan Check Electrical Requirements Handout**

ELEVATORS

Section of the hoist-way showing:

- Pit depth, ladder & location
- Hoist-way clearance
- Hoist-way ventilation

Sump in pit with GFI outlet & gravity drain/pump to:

- Sand/oil separator if hydraulic
- Storm sewer if roped or other

Machine room ventilation
Location of the control room
Lockable disconnect for equipment
Emergency Power

Fire resistive construction & separation criteria

Indicate all assemblies of rated construction to include the following:

- Exterior walls
- Fire barriers
- Fire walls
- Incidental use areas
- Shaft enclosures
- Horizontal assemblies
- Exit enclosures
- Corridors
- Fire Resistive construction based on the type of construction

Exits

This guide is intended to be used by the designer or reviewer to ensure that exiting requirements have been met. This is a summary of the most common issues regarding exiting design.

NUMBER OF EXITS REQUIRE FOR EACH SPACE

For each space under consideration on the plans, write, “Space under consideration.” This may be a single room or a group of rooms having a common means of egress.

- Occupancy Classification
- Area in square feet
- Occupant load factor
- Number of occupants
- Number of exits required

SEPARATION OF EXITS

- When 2 exits are required, the distance between the exits must be equal to or more than 1/2 the diagonal dimension of the area served or 1/3 the diagonal if the building is sprinklered.
- When more than 2 exits are required, they must be arranged a reasonable distance apart so that if one exit becomes blocked, others will be available.

TRAVEL DISTANCE TO THE EXIT

TRAVEL THROUGH INTERVENING ROOMS

The code specifically prohibits travel through intervening rooms with some of the following exceptions:

- Adjoining room/area is accessory to the area served;
- It is not a high hazard (H occupancy); and
- There is a recognized path of egress to an exit.

The general intent of the code is to allow the occupant passage through successive spaces of increased protection from an occupied space to the public way. As an occupant reaches a higher level of protection, the passage cannot revert to a lower protective level.

CORRIDORS

Most occupancies (A, B, E, F, M, S, U) require corridors to be 1-hour rated unless the building is sprinklered or the occupant load served by the corridor is 30 or less.

ENCLOSURES & FIRE-RESISTIVE RATINGS

- Stairs must be enclosed with fire-resistive construction.
- Exit enclosures cannot have any openings except those required for egress from normally occupied spaces.

SHAFTS & ELEVATORS

- Elevator is considered a shaft if enclosed and must be protected as such.
- Elevator lobby is not required unless the elevator connects more than three stories.
- Elevator cannot be located in stair or exit enclosure.
- Access to an exit gained through an elevator lobby is acceptable if another exit is provided that complies with code.

Example of a path of egress:

Occupied space → Corridor → Rated exit enclosure → Exterior court → Public way

Departments that review plan submittals

Contact information is listed in the typical order of the review process, and includes most departments. After plans are submitted for review, you may track the progress on our web site, under PLAN CHECK, by the assigned plan number or project address.

DEPARTMENT	PHONE	WEB
Pikes Peak Regional Building Department		
Plan Review	719-327-2880	www.pprbd.org
Enumeration	719-327-2960	www.pprbd.org
Floodplain Management	719-327-2889	www.pprbd.org
Elevators	719-327-2880	www.pprbd.org
Development Services (Zoning)		
Colorado Springs Development Review	719-385-5982	www.coloradosprings.gov
El Paso County Development Services	719-520-6300	www.co.elpasoco.com
Fountain Planning & Zoning	719-322-2028	www.fountaincolorado.org
Green Mountain Falls City Clerk	719-684-9414	www.gmfco.us
Manitou Springs Planning	719-685-4398	www.manitousprings_co.gov
Monument Planning	719-481-2954	www.townofmonument.net
Palmer Lake	719-481-2953	www.ci.palmer_lake.co.us
Woodland Park	719-687-5202	www.city-woodlandpark.org
Fire Authority		
Colorado Springs	719-385-5982	www.coloradosprings.gov
Northeast Teller (Woodland Park)	719-687-1866	www.netellerfire.org
Engineering		
Colorado Springs	719-385-5979	www.coloradosprings.gov
El Paso County	719-520-6460	www.co.elpasoco.com
El Paso County Heath Department	719-578-8968	www.co.elpasoco.com
Colorado Springs Utilities		
Applications and Permits	719-668-8111	www.csu.org
Gas/Electrical Division	719-668-8259	www.csu.org
Wastewater and Water Division	719-668-8259	www.csu.org

Suburban communities located outside of the city of Colorado Springs are served by several different utility providers and fire districts. Please call the appropriate phone number listed above under "Zoning" for information. Links to most cities and townships served by Regional Building Department are also available on our web site.