

COMMUNITY DEVELOPMENT DEPARTMENT



PERMIT REQUIREMENTS FOR MULTIFAMILY AND
COMMERCIAL BUILDINGS

VERSION: January 18, 2022

PERMIT REQUIREMENTS:

The following improvements require a permit:

- New construction, additions, remodeling, of any building or building system. Remodeling means: a change to a building elevation, a change to egress paths, modifications to floor plans or layouts where walls are added greater than five foot nine inches in height and any changes made to protective systems.
- Demolition work
- Any work associated with changing the occupancy or use of a building
- Accessory buildings over 120 square feet
- New or replacement heating and air conditioning systems
- Plumbing work on any building; water/sewer lines, septic tanks, wells, and fire lines where additional lines or fixtures are added
- Any electrical work where service is changed, load is increased, or circuits added
- Signs
- Grade/fill work, site clearing greater than 500 Sq. Ft. or 300 Sq. Ft building project in the flood plain or any excavation in excess of 100 cubic yards

Permits Issued for compliance with Fire Codes

Application for these permits may be obtained at Fire Department.

- Installation, additions and alterations to Fire Protection Systems; including sprinkler systems, fire hydrants, commercial cooking hoods, and computer labs
- Installation, additions and alterations to Fire Detection Systems; including commercial fire alarm systems, residential/household alarm systems, and smoke detectors in multi-family buildings
- Installation, additions and alterations to Fire ponds, cisterns or sprinkler systems for compliance to Rural Fire Supply
- Tanks and equipment for flammable and combustible liquids
- Liquid Petroleum Gas above and below ground tanks
- Oil burner permits
- Fireworks, pyrotechnics and blasting
- Annual Assembly and Educational occupancy
- Haunted houses
- Commercial welding or cutting
- Life Safety Code plans

COMMERCIAL PLAN REVIEW:

NEW BUILDINGS AND ADDITIONS:

✓ SITE PLANS:

- Provide copies of signed approved site plans if Planning Board approval is required
- The construction documents submitted with the application for permit shall be accompanied by a site plan showing to scale the size and location of new construction and existing structures on the site, distances from lot lines, the established street grades and the proposed finished grades and, as applicable, flood hazard areas, floodways, and design flood elevations; and it shall be drawn in accordance with an accurate boundary line survey. In the case of demolition, the site plan shall show construction to be demolished and the location and size of existing structures and construction that are to remain on the site or plot. The building official is authorized to waive or modify the requirement for a sit plan when the application for permit is for alteration or repair or when otherwise warranted.
- For any building constructed with any part of the structure below the regulatory flood plain elevation, flood-proofing certification must be provided at time of plan submittal.

✓ **ARCHITECTURAL PLANS:**

Architectural Plans with the following information must be provided as the information may relate to the particular project.

- There shall be, on a cover sheet, indications of the design parameters for loading, wind, seismic, etc.
- There shall also be on the cover sheet code review summary of the plans to be reviewed
- All plans must be drawn to scale (1/4" = 1 foot) and fully dimensioned. (Plans done in pencil are not accepted.) The minimum plan size is 24" x 36" (unless all of the work can be shown on smaller pages maintaining a 1/4" scale) and you are required to submit three sets at minimum of all plans and all documents. You will be required to utilize for construction and inspections the permit set that has been issued by the Code Enforcement Department stamped "Reviewed for Code Compliance." If you need more than one set, you should submit additional sets for plan review.
- Applicant shall provide a statement of structural tests and special inspections prepared by the licensed architect or in accordance with Chapter 17 of the State Building Code as adopted by the City of Keene.
- If appropriate for the proposed occupancy, submit complete data on types and amounts of materials to be stored, processed, manufactured or used in the manufacturing of products in this facility. State if such materials are corrosive, poisonous, under pressure, in a liquid or gaseous state, radioactive or other relevant properties.
- A letter of certification and cut sheets of fire resistance must accompany all fabric awnings or canopies from the manufacturer. Fabric awnings and canopies must meet the ground snow loads and be constructed to support all live and dead loads as specified in the State Building Code as adopted by the City of Keene.
- Provide on the plans the calculations for the means of egress widths for the entire floor occupancy load and the exiting capacity of all exits including all stairs, doors, corridors and ramped exits.
- Provide a Life Safety Plan showing means of egress, fire protection and fire detection systems.
- Provide architectural floor plans of each floor showing the location and ratings of all walls proposed for the project.

- Provide wall legend showing material sizes, construction, and each type of rated and non-rated wall where the walls terminate (deck of membrane) and reproduce all applicable UL/FM details for the walls on the drawings.
- The square footage of each floor must be shown on the corresponding floor plans.
- As applicable to the project, provide all UL floor and ceiling and ceiling and roof fire-rated design assemblies.
- The names and uses of each room must be provided.
- A door schedule that defines all doors (with ratings if applicable), frames (with ratings if applicable), and hardware (with ratings if applicable) shall be provided.
- An elevation with dimensions, defining overall building height, floor-to-floor heights, or heights to ridge and eave as applicable to the type of building construction proposed should be shown.
- A roof plan showing roof slopes, primary and secondary drainage system, if applicable to the project, must be provided.
- Provide exterior wall envelop/covering details (i.e. veneers, siding, exterior insulation) and finish systems, architectural trim details, cornices, soffits, fascias etc.) Provide flashing details at windows, doors, chimneys, roof intersections, etc. Provide details on attachment methods.
- For assembly occupancy only, provide two (2) drawings showing the seating layout for determination of occupancy posting.
- Provide roofing details (i.e. materials, fire classification, performance requirements, flashing details, attachment method etc.
- If the plans to be submitted are for a “shell building,” show all proposed plumbing, HVAC and electrical rough-in work (if any is to be included) on the plans. Tenant walls must not be constructed under “shell only” permit and must not be shown on the shell drawings.
- If masonry construction is proposed, include the following information:

_____ Type of brick ties and spacing of weep holes	_____ Bond beam locations
_____ Control joints	_____ Location of reinforcement
_____ Placement of wall flashing	_____ Materials proposed
- If a floor slab vapor barrier is included it must be shown.
- For pre-engineered metal buildings, submit the manufacturer’s letter of engineering certification, an engineered sealed foundation plan and complete architectural plans. The letter of engineering certification shall state the model number, size and design loads for the building. The letter also should state that the structural integrity of the building will be maintained as shown in the architectural plans and that the building meets the live and dead loads for Keene, New Hampshire. These loads must be stated in the correspondence. A registered architect or professional engineer must design the foundation plans and show the size and reinforcement of footings or turn-down slab and reaction loads for all columns. Also specify reinforcing, bolt pattern and bolt sizes and all connections for the building. Metal building drawings and columns reactions shall be submitted.

✓ **STRUCTURAL PLANS:**

Structural plans with the following information must be provided as the information relates to the particular project.

- Provide complete footing and foundation plans.
- A footing schedule defining footing sizes and the required reinforcing must be provided.

- The established footing depth below grade must be shown.
- The thickness of the floor slab and size of reinforcing must be shown.
- Provide location, size and amount of reinforcing steel.
- Show foundation corner reinforcing bars and minimum overlapping (as applicable to project structure).
- Provide strength of concrete according to design.
- Wood beams, joists, girders, headers rafters and/or truss design and layouts (with reactions shown) and details of connections must be shown.
- The sizes, species, and design strength of all members must be provided.
- All steel columns, girders, joists, purlins, beams and base plates must be provided.
- A complete lintel schedule must be provided if lintels are used.
- Indicate the type of anchoring for steel bearing directly on masonry.
- Complete shop drawings for precast concrete and masonry units shall be submitted.
- The total of dead and live loads for floor areas, roofs, balconies, porches, breezeways, corridors, stairs, mezzanines and platforms must be shown. Also show concentrated loads, such as file rooms, machinery and fork-lift areas
- Shear walls, bracing, strapping, fastening, reinforcement and any special anchoring required.
- Indicate on roof framing plan where concentrated loads (such as mechanical equipment, cranes, etc.) may be placed.
- Complete structural plans for canopies over entrances, and exterior exit stairs should be included in the submittal.

✓ **PLUMBING PLANS:**

Plumbing plans with the following information must be provided as the information relates to the particular project:

- Indicate all supply and waste piping on the plans for each floor, with riser drawing.
- Indicate roof drainage plan including secondary drainage system on the roofing as well as calculations for leaders, with riser drawing.
- A fixture and equipment schedule as well as supply and waste/vent riser diagrams must be provided for all units on all floor levels.
- The number of water closets must be shown for each sex with their locations indicated on each floor plan. Calculations must be shown for fixture distribution for each floor area.
- Grease interceptors (as applicable to project) shall be provided and sized by the flow rate per minute.
- All fire-rated walls must be shown on each applicable floor plan with a corresponding wall legend.
- All applicable UL/FM penetrating procedures used to maintain integrity of rated assemblies shall be detailed for each type of penetration. The penetration details must be exactly as tested by an approved testing laboratory or agency and they must include their system numbers.
- Detail types and location of backflow devices.

✓ **MECHANICAL PLANS:**

Mechanical plans with the following information must be provided as the information on the plans relates to the particular project.

- Mechanical floor plans must be provided for each floor.
- The size of all duct runs must be clearly labeled and delineated on the drawings.
- Disconnect for fan shutdown must be indicated on the plans.
- The location and installation details of all fire dampers, smoke dampers and fire doors must be provided.
- All fire-rated walls must be shown on each applicable floor plan with a corresponding wall legend.
- All applicable UL/FM penetrating procedures used to maintain the integrity of the rated assemblies must be detailed for each type of penetration. The penetration details must be exactly as tested by an approved testing laboratory or agency and they must include their system
- Complete Energy Summary Sheet (copy is attached)
- Required systems and ventilation rates. ASHRAE 2013. (Note number of people to be per ASHRAE 2013)
- Refrigerant system requirements as per ASHRAE 34-2013. Identify if the refrigerant creates a hazardous location as defined in Article 500 of the National Electric Code.
- Commercial kitchen equipment drawings if submitted shall be sealed by a licensed architect or engineer. Calculations to show CFM's and makeup air required and the method of isolation of equipment (shunt trip, gas valve).

✓ **ELECTRICAL PLANS:**

Electrical plans with the following information must be provided as the information relates to the particular project:

- Provide power plans for each area. Indicate all device & equipment locations/ direct hook-ups. Show and size all equipment disconnects.
- Provide lighting plans (on reflected ceiling plans) for each area. Indicate control locations, fixture & lamp types, # of lamps and ballasts, and voltage of operation.
- Provide locations of all services, service disconnects, panels, transfer switches, generators transformers and distribution equipment.
- Provide all panel schedules. Include branch wiring and O.C. device size(s).
- Both 'connected' and 'code' load calculations for all panels, busses, feeders, generators, and services.
- A single line-riser diagram (NEC 215-5), showing service and feeder wire, equipment grounds, conduit, and O.C. device sizes, fuse types, max. available fault current, and equipment & device bracing. Include transformer sizes, grounding electrode conductors and grounding bonding jumper sizes and identify grounding electrodes to be used.
- Location of all services [NEC 230-2 (with plaques if required)] to show compliance with NEC 230-70a.
- Wiring methods to be used including conductor material & insulation types, and conduit

types. All wire terminations and equipment are rated for 75 degrees C minimum.

- All life safety requirements, such as fire alarm systems and special power requirements with locations of exit signs and emergency egress illumination. Single line-riser diagram showing panel(s) and devices for fire alarm systems. In addition, a separate Fire Alarm Permit is required, issued by the Fire Department.
- If applicable, a note on plans indicating that no hazardous materials are stored or used on premises and that no area is deemed a hazardous area per NEC definitions.
- It is suggested that plan details required as to NEC Chapter 5 (Special Occupancies), Chapter 6 (Special Equipment), or Chapter 7 (Special Conditions), should be discussed with the department in advance of plan submittal.

✓ **FIRE PROTECTION PLANS**

Fire Protection plans with the following information must be provided as the information relates to the particular project.

- Floor plans showing sprinkler-piping layout, pipe sizes, pipe hanger details, piping materials, doors, walls and room identities must be provided seismic bracing requirements. A clear floor plan or a life safety plan to show compliance with NFPA 101 for egress.
- Ceiling plans showing sprinkler heads layout, walls, soffits, openings, doors, dimensions and room identities must be provided.
- Sprinkler design data sheet must be completed and included on the first sheet of the sprinkler drawings.
- Verify the system design by providing hydraulic calculations or pipe schedule along with the following information:
 - o Recent water flow test
 - o Fire pump summary
- All fire-rated walls must be shown on each applicable floor plan along with a corresponding wall legend.
- All applicable UL/FM penetrating procedure details used to maintain the integrity of the rated assemblies for each type of penetration must be shown. The penetration details must be exactly as tested by an approved testing laboratory or agency and they must include their system numbers.

✓ **ENERGY CONSERVATION:**

- ComCheck (forms are available on line at www.energycodes.gov/comcheck/).
- Energy Code Compliance: Submit ComCheck forms and inspection sheets. Details shall include building envelope requirements, building mechanical systems and specs., water heating systems and specs., electrical power and lighting systems.

COMMERCIAL INSPECTION REQUIREMENTS:

The following is a listing of minimum inspection requirements for commercial construction projects. The requirements are the minimum for most new commercial buildings and additions. The list is intended to itemize the more common inspections but may not include every required inspection on any given project. Always check with your project Inspector for specific details. For purposes of this information, a commercial construction project is defined as the construction of any building other than a one or two family dwelling.

✓ **FOUNDATIONS, GRADE BEAMS, PILE CAPS, FOUNDATION PADS:**

- All trenches or excavations and formwork shall be in accordance with the size(s) and configuration(s) as per approved plans.
- All steel reinforcement must be in place, and properly sized, supported, spaced, overlapped, and tied as required.
- Foundation survey shall be provided or property markers shall be exposed and strung up to verify property setback requirements.
- All electrical, plumbing, gas or mechanical components must be completed, tested and pass inspection before concealing.
- Slab Inspection
- All excavations and/or forms erected in accordance with the size and configuration as per the approved plans.
- Area within excavation of formwork must be properly compacted.
- Vapor barrier, steel reinforcement and expansion joint materials properly in placed.
- Masonry walls must be complete and steel reinforcement in place, properly overlapped, supported and tied.
- All tie beams and columns must be installed and/or formwork erected in accordance with the size(s) and configuration(s) as per approved plans prior to inspection.
- All formwork must be properly braced, supported and tightly constructed.
- All cleanouts must be provided and the vertical cells clean of all debris. Cells that contain insulation or are intended to be empty shall be protected prior to grout.
- Provide certificate of elevation when required (flood zones).

✓ **FRAMING INSPECTION:**

- All wall and roof sheathing must be installed in accordance with the fastening schedule on the approved plans and shall be inspected prior to dry-in.
- Framing Inspection
- All framing, bracing, fireblocking, draftstopping and anchoring devices must be in place and installed in accordance with the type, sizes(s) and configuration(s) on the approved plans.
- Walls, partitions, floors, floor/ceiling and roof ceiling assemblies must be installed in accordance with the approved plans.
- Rooms, spaces, corridors, accessibility areas and doorways shall be sized and configured in accordance with the approved plans.
- The building must be weather-tight and the roof dried- in, windows and doors installed and completed.
- Fireplace and chimney must be installed and provided with the proper clearances as per manufacturer specifications, if applicable.
- Every sleeping room in dwellings and dwelling units must have emergency egress openings (windows), which shall be sized and installed per code.
- Attic and crawl space ventilation must be provided.
- All electrical, plumbing, gas and mechanical components must be completed, tested and passed inspection before concealing.
- All safety glazing in hazardous locations must be in place and properly identified.

Provide certificate of elevation when required (flood zone).

✓ **FINAL INSPECTION:**

- The building or structure must be substantially complete and ready for occupancy, or the work for which the permit is required, must be complete.
- All life safety systems and accessories must be in place and functional (refer to Fire Marshall requirements).
- All required fires topping and draft stopping must be installed, i.e. penetrations, vertical/horizontal assemblies, smoke walls, fire door assemblies, etc.
- All stairs, handrails and guardrails complete.
- Attic and crawl space access and ventilation must be completed.
- Attic insulation must be completed and certificate of insulation displayed.
- All ramps, facilities and accessories to accommodate the handicapped must be in place.
- Post address as required.

✓ **FIRE INSPECTIONS**

Contact the Fire Department

✓ **FINAL INSPECTION**

- All life safety features must be in place and functional.
- If applicable, fire alarm, fire protection and fire suppression must have been previously tested and approved.
- Fire rated walls are exposed, marked and penetrations properly sealed with fire rated caulking.
- Fire extinguisher must be tagged and hung.

SPECIALTY BUILDING INSPECTIONS:

✓ **STEEL FRAMING INSPECTION:**

- All structural steel framing, bracing, firestopping, draftstopping, sheathing materials and anchoring devices must be in place and installed in accordance with the type, size(s) and configuration(s) on the approved plans.
- All riveting, bolting, bracing, welding and uplift components must be completed.
- Fireproofing materials must be in place and installed in accordance with approved plans and/or recognized assembly requirements.
- A licensed structural engineer must certify all bolting and job-site welding.

COMMERCIAL ELECTRICAL INSPECTIONS:

✓ **ELECTRICAL SERVICE CONNECTION**

- Temporary connection of power for construction purposes, overhead or underground, to a power pole is permitted upon approval of the electrical inspector. For violation of any codes

or ordinances, power can be disconnected.

✓ **UNDER-SLAB INSPECTION:**

- All conduits, raceways, grounding, and other components must be installed in open excavations.
- All openings in conduits shall be sealed.
- Inspected prior to any backfill being put in place.

✓ **ROUGH-IN INSPECTION:**

- All conduits, raceway boxes and other components must be in place and secured to studs and ceiling joists.
- Wiring must be installed in conduits, raceways, and panels.
- All wiring joints shall be completed.
- Electrical rough-in must be approved prior to concealment.

✓ **ELECTRICAL SERVICE INSPECTION:**

- Conduit for overhead/underground service must be properly attached. Weatherhead must have raincaps with conductors having proper drip loop.
- All panel boxes must be in place with wiring connected to terminals.
- Meter can must have a lightning arrestor, and the service must be properly grounded.
- Thru-roof risers must have a weatherproof boot installed.

✓ **TEMPORARY POWER RELEASE PROVISIONS:**

Temporary supply and use of power can be given in part of an installation prior to certificate of occupancy. This permission is revocable for cause.

- Submit written request for release of temporary power.
- Submission must include the expected length of time temporary power will be used and the conditions upon which it will be surrendered.
- Building must be weathertight.
- All elements of the systems to be powered will be code compliant and have passed inspection.
- Electrical panels and rooms must be secure
- All fees must be paid.

✓ **FINAL INSPECTION:**

- All switches, receptacles, fixtures and devices must be installed or openings properly closed.
- All panels must have breakers installed, and have covers installed with all circuits labeled.
- Swimming Pool/Spa Inspection
- All metal components, deck steel, pool reinforcing and pool enclosure must be bonded together.
- All circuit protection devices relating to pool areas must be GFI type.
- Junction box/pool light, installed, must be completed and visible for inspection of

bonding to pool lights.

- Pool electrical inspection must be approved prior to concealment.

COMMERCIAL MECHANICAL INSPECTIONS:

✓ ROUGH-IN INSPECTION:

- Air handler(s) installed.
- Secondary drain pan and drain lines.
- Access to unit.
- Refrigerant piping.
- All ductwork including firedampers and access doors.
- Refrigerant rupture line to be installed.
- Gas vents to be installed.
- Combustion air ducts installed.
- Mechanical closets for attic mounted equipment to be framed in.
- Boiler to be installed.

✓ FINAL INSPECTION:

- Grilles installed.
- All equipment installed.
- All pressurization and smoke removal systems are operational.
- Fire and smoke sensors operational.
- Fire and smoke dampers complete and operational.
- Duct chases are complete.
- Gas vents to be connected to appliances.
- Electrical disconnects installed to code.
- Pressure Test Inspection
- Condenser water, chilled water, hot water or steam piping with associated valves and gauges are pressurized.

COMMERCIAL PLUMBING INSPECTIONS:

✓ UNDER SLAB INSPECTION

- All underground water and sewer lines must be installed, and the excavation left uncovered. Thru-slab stub outs must be in place and correctly sleeved. All piping tested, inspected and passed before covering.

✓ ROUGH-IN INSPECTIONS:

- All piping must be properly supported, and all water and sewer lines must have the proper test and passed inspection before covering.
- Tub Set Inspection

- All tub and showers must be in place and all drains must be connected. The fixtures must be filled to overflow for test and passed inspection before concealing piping and fittings.
- All water piping and diverter valves shall be tested, inspected and passed before covering.
- All vents must be installed and must exit properly through the roof.

✓ **FINAL INSPECTION:**

- All fixtures installed connected to the water and sewer systems must be in proper working order.
- All hosebibs must have a non-removable vacuum breaker.
- All inspections have passed up to final stage. The site utilities and irrigation must be finalized too.
- Hot water heaters must be installed and operational.

✓ **SEWER INSPECTION**

- All piping must be in place, under proper test and properly supported. Excavations are to be left uncovered until the inspection is made and passed.
- All cleanouts must be properly installed, and the line must be closed off and filled with water to check for leaks.

COMMERCIAL REMODELING

The plans review and inspection requirements for commercial remodeling will vary for each project. Consult with the Plans Examiner or Building Inspector for details.