



**Signature & Policy Page**

**ADDITIONAL REQUIREMENTS FOR CONSTRUCTION**

- 1. Property location, street address, map and lot number
- 2. Street opening permit from Engineering
- 3. Sub surface wastewater design, HHE-200 (if applicable)
- 4. Dimensions and locations of all impervious surfaces on plot plan (if applicable)
- 5. Application for a Certificate of Occupancy (for zoning approval)

**Please read and initial each item below, sign, and date the application**

\_\_\_\_\_ I understand that building permits do not include plumbing, septic, heating, electrical, sprinkler, intrusion/fire alarm work. Some projects may require DEP or State Fire Marshal approval.

\_\_\_\_\_ I understand that building permits are valid for one year.

\_\_\_\_\_ I agree to comply with all applicable Building Codes, Energy Conservation Codes, Fire Codes & the 2009 Life Safety Code.

\_\_\_\_\_ I understand that my building(s) cannot be within the setback from the property line.

\_\_\_\_\_ I agree to schedule all inspections 24-48 hours in advance and get permission before backfilling the foundation.

\_\_\_\_\_ I agree to schedule an inspection of the Radon Control System prior to placement of the basement slab.

\_\_\_\_\_ I will not close in the walls until the framing, insulation, vapor barrier, electrical, and plumbing have been inspected.

\_\_\_\_\_ I authorize inspections necessary to ensure compliance with regulations.

\_\_\_\_\_ I understand that a Certificate of Occupancy is required prior to occupying the building.

\_\_\_\_\_ I certify that all information given in this application is accurate and complete.

\_\_\_\_\_

\_\_\_\_\_

Applicant Signature

Date

It is our policy to review and process applications as quickly as possible to ensure code compliance for your safety as well as the safety of others. The fee will cover the costs associated with inspection(s) of your property. We accept cash, debit card or check made payable to the City of Bangor.



APPLICATION FOR BUILDING PERMIT

Tel. 207-992-4230

PERMIT NO: \_\_\_\_\_

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

APPLICANT: \_\_\_\_\_ PHONE: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

PERMIT TYPE: \_\_\_\_\_ STORIES: \_\_\_\_\_ NO.OF DWELLING UNITS: \_\_\_\_\_

AT LOCATION: \_\_\_\_\_ ZONING DISTRICT: \_\_\_\_\_

SUBDIVISION: \_\_\_\_\_ MAP/LOT: \_\_\_\_\_ LOT SIZE: \_\_\_\_\_

BUILDING TO BE: \_\_\_\_\_ FEET WIDE BY \_\_\_\_\_ FEET LONG \_\_\_\_\_ SQUARE FEET

TYPE: \_\_\_\_\_

GROUP: \_\_\_\_\_

REMARKS:

ESTIMATED COST: \_\_\_\_\_ PERMIT FEE: \_\_\_\_\_

OWNER: \_\_\_\_\_ SITE PLAN: \_\_\_\_\_ CONSTRUCTION PLANS: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

SET BACKS – FRONT: \_\_\_\_\_ REAR: \_\_\_\_\_ LEFT: \_\_\_\_\_ RIGHT: \_\_\_\_\_

ALL FOUNDATIONS MUST BE FIVE (5) FEET BELOW GRADE

I hereby certify that the proposed work is authorized by the owner of record and I have been authorized by the owner to make this application as his/her authorized agent. Further, that the proposed work will be done in accordance with the land Development Code and Construction Codes of the City of Bangor effective at the date of this permit.

SIGNATURE OF AGENT: \_\_\_\_\_

SIGNATURE OF OWNER: \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_

APPLICANT DO NOT WRITE BELOW THIS LINE

APPROVED BY: \_\_\_\_\_ TITLE: \_\_\_\_\_

PERMIT DATE: \_\_\_\_\_

## **RESIDENTIAL SITE PLAN:**

### **Please indicate all of the following items on the site plan:**

Exact position of all new construction and existing structures (including accessory structures).

- Setback distances from property lines to all structures (front, back and sides)
- Location of well and septic system including distances from structures and property lines
- Area to be cleared of trees and other vegetation
- Any wetlands or water bodies and setback distances from shoreline if applicable

**Note:** For all projects in the shoreland zone involving filling, grading or other soil disturbance, you must provide a soil erosion control plan describing the measures to be taken to stabilize areas before, during and after construction

**Note:** The State of Maine has adopted the following codes and standards and has mandated that Bangor enforce these codes as well as all existing fire and life safety codes as of December 1, 2010:

- 2009 International Building Code
- 2009 International Residential Code
- 2009 International Energy Conservation Code
- 2009 International Existing Building Code
- 2007 ASHRAE 62.1 Commercial Ventilation Standard
- 2007 ASHRAE 62.2 Residential Ventilation Standard
- 2007 ASHRAE 90.1 Commercial Energy Standard
- 2007 ASTM E 1465 Radon Code

## **BUILDING PLANS:**

**Note:** All new construction of both Residential and Commercial structures now require a complete set of Building Plans and Energy Conservation Detail Plans.

- Floor Plan & Elevations
- Complete Foundation
- Radon Collection System
- Complete Framing for Floors, Walls, Roof System, Stairways & Decks
- Energy Conservation Detail for Basement Slab, Walls, Ceiling, Windows & Doors

**Note:** Some residential building plans may need to be stamped by a Maine Licensed Professional Engineer or Architect.

**Note:** Commercial building plans must be stamped by a Maine Licensed Professional Engineer or Architect. COMcheck Compliance Certificate is required for commercial projects. REScheck Compliance Certificate is required for residential construction.

**Note:** Storage and similar small building of 120 square feet or less do not require building permits but must still comply with setbacks.



## Code Enforcement Office

MUBEC is the Maine Uniform Building and Energy Code. Basic questions regarding code compliance can be answered by reading the “Residential Building and Energy Code Supplement” and “Typical Construction Specifications” that are attached to this Building Permit Application. Please contact the office if you have additional concerns.

**The following information is required to be submitted before a residential building permit can be issued:**

1. A completed “City of Bangor Building Permit Application”
2. A complete set of building plans which show the following (if applicable):
  - a. Footing detail including drain
  - b. Foundation detail including anchors
  - c. Radon collection detail if it is to be installed. If you are building a new home, read a copy of the EPA publication, “Building Radon Out”
  - d. Detail for column footings
  - e. Detail for chimney footing
  - f. Insulation detail for basement walls and floor
  - g. Floor plan for each floor indicating room use
  - h. Framing detail for floor systems
  - i. Framing detail for walls, doors, windows
  - j. Insulation and vapor barrier detail for all exterior walls
  - k. Framing detail for all stairs and stairwells
  - l. Framing detail for roof system  
Trusses must be engineered
  - m. Ventilation detail for roof system
  - n. Insulation and vapor barrier detail for ceiling and floors
  - o. Energy ratings for doors, windows and HVAC equipment
3. Site plan which shows the following:
  - a. Any existing buildings structures or features that may affect construction
  - b. Setback compliance to property lines
  - c. Location of water source (well)
  - d. Location of subsurface wastewater disposal system (septic system)  
Location of both tank and leach field
  - e. Location of driveway or access
  - f. Location of any pond, stream or wetland within 250 feet
  - g. Topography changes of lot within 100 feet of structure
  - h. Lot coverage and Impervious Surface Ratio (ISR) calculations

**YES – THE APPLICABLE ITEMS ARE REQUIRED FOR GARAGES ALSO**

## RESIDENTIAL BUILDING & ENERGY CODE SUPPLEMENT

All applicable state law, Bangor Land Use Ordinance ASTM 1465-06 Radon Code and certain sections of the 2009 IBC, IRC, IECC & IEBC codes apply to all building permits issued. The following is intended to help the builder comply with minimum building standards and to help prevent common costly mistakes and construction delays. Additional code information can be found at [www.maine.gov/dps/bbcs](http://www.maine.gov/dps/bbcs)

**PLANS:** Section R-106, All work shall conform to the approved application and construction documents. A dimensional floor plan showing all room uses, doors, windows, decks, porches and steps is required. Detailed structural plans are required for foundation and framing. If you vary from plans provided the Certificate of Occupancy will not be issued until the plans in the property file, at the Code Enforcement Office represents the actual construction. IECC Section 103 requires plan detail of walls, ceilings, floors, basement and window energy efficiency. Foundation, framing and insulation detail are required to show that the construction will be in compliance with the 2009 edition of the International Energy Conservation Code as adopted by the State of Maine.

**SETBACK REQUIREMENTS:** You must comply with the required setbacks for your zone. If there is any question as to the location of your building, a letter from a surveyor will be required stating compliance.

**FOUNDATIONS:** Chapter 4, Footings will be sized according to Section R-403. Plain concrete 8" thick & reinforced concrete 6" thick both with a shelf extension of 4" inside and out of foundation wall. Footings will be protected from frost. Foundation walls enclosing interior space will be thoroughly waterproofed and damp proofed to grade elevation. Exterior drain tile will be connected to interior drain tile and drained to daylight or an internal sump. Drain tile will be lower than the top of the footing & buried in crushed stone then covered with approved filter membrane. Foundation walls will have anchor bolts within 1" of each corner and every 6' thereafter. DO NOT backfill the foundation prior to inspection of drain tile and damp proofing.

**RADON COLLECTION SYSTEM:** ASTM-1465 A soil gas collector shall be built into all gas-permeable layers. 4" perforated pipe per table 7. 1"-1.5" crushed stone 4" deep. Connector pipe per Table 6.

**WOOD FRAME CONSTRUCTION:** Joist hangers or 2" ledger required at carrier; toe nailing is not allowed. A 2" clearance from combustible framing is required at interior chimney with 26 gauge galvanized steel fire stop at each level including unfinished 2<sup>nd</sup> floor ceiling. Headers required at all support wall openings. Span calculations must comply with AF&PA Tables or be engineered. DO NOT close in prior to inspection of framing, electrical, plumbing and insulation.

**CHIMNEYS:** NFPA 211: Cleanout required 16" above floor. Flue outlet must be at least 2' above the 10' horizontal line to roof and extend at least 3' above the upslope side of the roof. Fire stops are required at each change in floor elevation.

**EGRESS WINDOWS:** Section R-310: Emergency escape and rescue: Every sleeping room in occupancies in Use Group R shall have at least one operable window or exterior door leading directly to the outside. Each egress window shall have a minimum net clear opening of 5.7 square feet plus the opening shall be at least 24" in height and 20" in width. The net clear opening dimensions shall be obtained by the normal operation of the window without additional assistance from the operator. Where windows are provided for emergency escape and rescue, the windows shall have the bottom of the clear opening not more than 44" above the floor. If single or double hung with a clear opening height of 24", the clear opening width must be at least 34.25" wide.

**ALL STAIRS INSIDE OR OUTSIDE:** Section R311, 80" of headroom is required throughout stairwells. R311.7.4, Treads and Risers: Maximum riser height shall be 7.73" and minimum riser height shall be 4". Minimum tread depth shall be 10" measured horizontally from nosing to nosing and at a right angle to the tread's leading edge. Nosing must be at least 3/4" and cannot exceed 1.25." Risers cannot have an open dimension of 4" or more. R-312, Stairway Guardrails shall be provided where the walking surface is more than 30" above the adjacent surface. Guards shall be at least 36" high, measured from the walking surface. R311.7.7 Stairway Handrails shall have continuous handrails returned to the wall or newel. The handgrip portion of the handrail shall not be less than 1.25" or more than 2" and shall be graspable. Stairways with 4 or more risers require a graspable handrail.

**PLUMBING:** Maine plumbing code requires a test of 5 PSI for 15 minutes on the drain, waste and vent lines and 50 PSI for 15 minutes on the hot and cold distribution lines. This means every part of the system at the time of rough in, not just the stack. Test Equipment & Gauges are the Responsibility of the plumber. Air test on PVC require a 6# relief valve for safety. DO NOT close in with walls or ceilings prior to passing the 5# and 50# tests.

**ELECTRICAL:** All electrical work will be done in compliance with the 2014 National Electric Code. All work must be inspected and approved prior to close in. Smoke detectors are required in each bedroom, the area adjacent to the bedroom and on each level of a residential structure excluding attics and crawl spaces. Carbon Monoxide Detectors are required adjacent to sleeping rooms. Arc Fault protection is required for all circuits excluding the smoke detector branch that are not protected by Ground Fault Circuit Interruption. Ground Fault protection is required at all locations listed as per Art. 210-8 of the NEC. **DO NOT** close in the walls or ceilings prior to the electrical inspection.

**ATTACHED GARAGES TO RESIDENTIAL STRUCTURES:** Table R302.6. Not less than ½” gypsum board to separate the garage from adjacent habitable space. Not less than 5/8” Type X gypsum board from habitable rooms above the garage. Doors leading from an attached garage to the dwelling shall comply with R302.5.1.

**DO NOT BACKFILL OR CLOSE IN WITHOUT PERMISSION FROM THE BUILDING OFFICIAL**

Plumbing, Heating & Electrical permits will only be issued to Licensed Master Tradesmen. An unlicensed home owner wishing to do their own plumbing, electrical or heating work in their own single family primary residence may obtain their own permits. All work performed by the home owner must meet the requirements of the current Codes. Permits are available at the Code Enforcement Office.

State Law does allow the use of Third Party Inspectors to perform building inspections. If you choose to use a Third Party Inspector the inspector must be certified by the State Planning Office for the inspection service provided. Third Party Inspector certifications include: Commercial Building Inspector, Residential Building Inspector, Commercial Energy Inspector, Residential Energy Inspector, Commercial Ventilation Inspector, Residential Ventilation Inspector and Radon System Inspector. Third Party Inspectors must provide detailed inspection reports to the Code Enforcement Officer prior to the issuance of a Certificate of Occupancy.

The City of Bangor provides all building inspection services as covered by the Building Permit Fee. The City of Bangor does not discount Building Permit Fees if you choose to use a Third Party Inspector.

**If you have any questions, please feel free to call the Code Enforcement Office at 992-4230.**

# City of Bangor

## Typical Residential Construction Specifications

1. All construction shall comply with:
  - a. The Maine Uniform Building and Energy Code
  - b. The 2009 International Residential Code-One and Two Family Dwellings
  - c. The 2009 International Energy Conservation Code
  - d. ASHRAE Standard 62.2-2007. Ventilation and Acceptable Air Quality
  - e. ASTM E 1465-06. Radon Control Options, and
  - f. All subsequent amendments
2. Those articles or materials specified by proprietary name or by name of vendor or manufacturer are expected to be furnished. Revisions for materials/construction are allowed provided that they are approved by the Building Official.
3. Minimum design loads:
  - a. Roof Snow Load                      80psf      Ground Snow Load 80 lb/sqft
  - b. Floors                                      40psf
  - c. Floors (sleeping areas)              30psf
  - d. Decks                                        40psf
  - e. Balconies                                  40psf
  - f. Attic (limited storage)                20psf
  - g. Design Wind Speed                    90mph/3 second gust
  - h. Fire separations:
    - 1) Garage partitions and attics (common to house)      ½" drywall
    - 2) Garage ceiling (under habitable space)                5/8" type X drywall
    - 3) Drywall shall be installed on the garage side
4. A Radon Control System, either passive or power vented shall be installed according to ASTM E 1465-06, Standard Practice for Radon Control Options for the Design and Construction of New Low-Rise Residential Buildings
5. Presumptive soil bearing capacity is 1,500 psi on undisturbed soil per table R405.1
6. Minimum footer depth is below frost depth of 5 feet
7. Maximum height of unbalanced backfill shall be per table R402.1.2 (1)-(9)
8. Provide continuous foundation drain tile around perimeter of foundation for habitable or useable spaces  
Below grade per section R405
9. Concrete not exposed to weather shall have a minimum compressive strength of 2,500psi at 28 days per table R402.2
10. Exposed exterior concrete shall be air entrained and have a minimum compressive strength of 3,000 psi per table R402.2
11. Slab on grade shall be 3.5" thick with x mil polyethylene vapor barrier. Provide x" wash stone/gravel below slab per section R506.1
12. All wood exposed to weather or within 8" of finish grade or bearing directly on concrete or masonry shall be pressure treated wood per section R317.1
13. Anchor bolts shall be spaced 1' from corners and every 6' thereafter. Anchor bolts shall be ½" minimum and extend 7" into concrete or masonry less than 8" rom grade.
14. Roof sheathing shall be a minimum of 5/8" exterior plywood or better
15. Provide roofing materials, asphalt shingles, #15 felt and ice damming from the eave's edge to a minimum of 2' past line of interior wall per manufacturer's instructions.
16. Flashing: Corrosive resistive flashing shall be provided on exterior window and door openings. Similar flashing shall be installed at the intersection of chimney or other masonry construction with frame walls, under and at the ends of masonry, wood or metal coping and sill, continuously above all projecting wood trim, at wall and roof intersections, at junctions of chimneys and roofs, at all roof valleys and at all roof openings per manufacturer's instructions.
17. Doors between house and garage shall be 1 3/8" solid wood or fire rated for 20 minutes per section IBC 406.1.4

18. All bathrooms, excluding those with openable operable windows shall be mechanically vented to the exterior (minimum 50cfm exhaust fan or intermediate ventilation 20cfm for continuous) per section R303.3
19. All fixtures and accessories installed outdoors and exposed to the weather shall be weatherproof
20. Insulation values per 2009 International Energy Conservation Code

System	Value
a. Skylight U-Factor	0.60*
b. Fenestration U-Factor	0.35*
c. Ceiling R-Value	49*
d. Wood Frame Wall R-Value	20 or 13+5*
e. Mass Wall R-Value	15* (continuous insulation on concrete wall) 19* (if insulation on inside of wall)
f. Floor R-Value	30*
g. Basement Wall R-Value	15* (if insulation on outside of wall) 19* (insulation between framing)
h. Slab R-Value and Depth	10. 4 ft*
i. Crawl Space Wall R-Value	10* (if insulation on outside of wall) 13* (if insulation on inside of wall)

\*These minimum values are required unless a copy of REScheck ([www.energycodes.gov](http://www.energycodes.gov)) is supplied at the time of application

21. Smoke detectors shall be installed in each bedroom, outside each bedroom in the immediate vicinity and on each level of the house. Smoke Detectors shall be hard wired and interconnected to each other and have battery back-up per section R314
22. Carbon Monoxide detectors shall be installed in each area giving access to bedrooms. The detector(s) must be powered by the electrical service in the building and have a battery back-up per section R315.
23. Crawl spaces will have vents located within 3' of corners and have access crawl opening hole that is at least 18" x 24" in floors and 19" x 24" through perimeter walls above grade per section R408
24. Attic access size and location shall be clearly marked on plans and have a minimum opening of 22" x 30" per section R807.1
25. All basements in excess of 200sqft shall have emergency egress by window or door leading directly to the outside per section R310.1
26. Glazing is required in doors and enclosures for hot tubs, whirlpools, saunas, steam rooms, bathtubs and showers. Glazing in any part of a building wall enclosing these compartments where the bottom exposed edge of the glazing is less than 60" (1524 m) measured vertically above any standing or walking surface shall be tempered or safety glass per section R308.4
27. A "Blower Door" air infiltration test or a Visual Field Inspection of the Building Thermal Envelope shall be conducted as per 2009 IECC section 402.4. A blower door test shall be considered acceptable when tested air leakage is less than 7 air changes per hour (ACH) at a pressure of 50 pascals (1psf). The visual inspection option shall be considered acceptable when the items in 2009 IECC Table 402.4.2 are field verified by the inspector
28. Energy Certificate to be mounted by electrical panel.

**Table 402.4.2 Out of 2009 IECC  
AIR BARRIER AND INSULATION INSPECTION COMPONENT CRITERIA**

COMPONENT	CRITERIA
Air Barrier and Thermal Barrier	Exterior thermal envelope insulation for framed walls is installed in substantial contact and continuous alignment with building envelope air barrier. Breaks or joints in the air barrier are filled or repaired. Air-permeable insulation is not used as a sealing material. Air-permeable insulation is inside of an air barrier.
Ceiling/Attic	Air barrier in any dropped ceiling/soffit is substantially aligned with insulation and any gaps or filled. Attic access (except unvented attic), knee wall door or drop down stair is sealed.
Walls	Corners and headers are insulated. Junction of foundation and sill plate is sealed.
Windows and Door	Space between window/door jambs and framing is sealed.
Rim Joists	Rim joists are insulated and include an air barrier.
Floors (Including above garage and cantilevered floors)	Insulation is installed to maintain permanent contact with underside of subfloor decking. Air barrier is installed at any exposed edge of insulation.
Crawl Space Walls	Insulation is permanently attached to walls. Exposed earth in unvented crawl spaces is covered with Class I vapor retarder with overlapping joints taped.
Shafts, Penetrations	Duct shafts, utility penetrations, knee walls and flue shafts opening to exterior or unconditioned space are sealed.
Narrow Cavities	Batts in narrow cavities are cut to fit, or narrow cavities are filled by sprayed/blown insulation.
Garage Separation	Air sealing is provided between outside and pipes. Batt insulation is cut to fit around wiring and plumbing or sprayed/blown insulation extends behind pipes and wiring.
Recessed Lighting	Recessed lighting fixtures are air tight, IC rated, and sealed to drywall. Exception-fixtures in conditioned space.
Plumbing and Wiring	Insulation is placed between outside and pipes. Batt insulation is cut to fit around wiring and plumbing or sprayed/blown insulation extends behind pipes and wiring.
Shower/Tub on Exterior Wall	Showers and tubs on exterior walls have insulation and an air barrier separating them from the wall.
Electrical/Phone Box on Exterior Wall	Air barrier extends behind boxes or air sealed-type boxes are installed.
Common Wall	Air barrier is installed in common wall between dwelling units.
HVAC Register Boots	HVAC register boots that penetrate building envelope are sealed to subfloor or drywall.
Fireplaces	Fireplace walls include an air barrier.