

Note: Not required for detached accessory buildings, or when specifically prohibited by sheathing and/or siding manufacturer.

Fire Alarm System

When alterations, repairs or additions requiring a permit occur, or when one or more sleeping rooms are added or crated in existing homes, the entire building shall be provided with smoke detectors as required for new homes. This includes the installation of a smoke detector in the basement of houses having a stairway which opens from the basement into the dwelling. Smoke detectors may be battery operated when installed in existing buildings unless walls and ceilings are open and new wiring is being installed. In that case, smoke detectors must be "Hard wired" -interconnected without a disconnect switch other than a breaker.

Other Permits

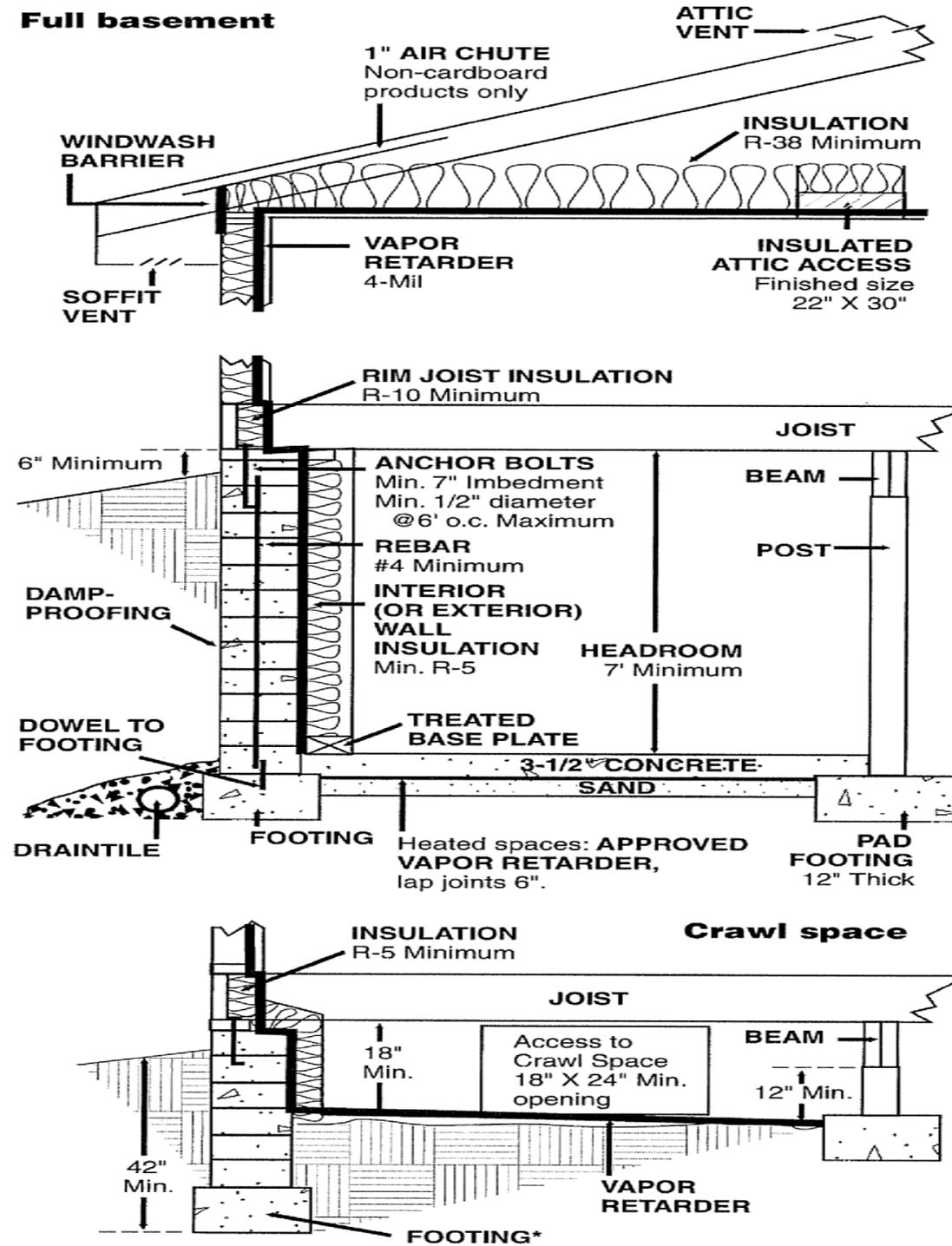
Separate plumbing, heating, fireplace and electrical permits are required for each type of working being done.

Inspections Needed

- ◇ **Footing:** When footing is excavated and formed or slab is formed and sand cushion and reinforcement are in place but before placement of any concrete.
 - ◇ **Rough-in:** For any plumbing, heating or electrical work that is involved.
 - ◇ **Weather-resistive barrier:** Prior to installing siding.
 - ◇ **Framing:** When all framing is complete, all mechanicals installed, but before insulating.
- Note:** Rough-in inspections for all trades must be approved and signed off on the blue permit inspection card before a framing inspection will be performed.
- ◇ **Insulation:** When all wall insulation is in place and ceiling and wall vapor barriers are in place.
 - ◇ **Fireplace:** Masonry smoke chamber inspections are required before the placement of flues.
 - ◇ **Final:** When all work is complete and before occupancy.

Note: Final inspections for all trades must be approved and signed off on the blue permit inspection card before a building final inspection will be conducted.

Full basement

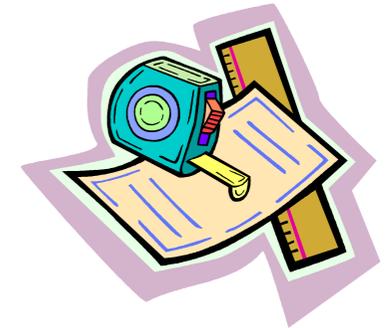


Note: Submit soil type on plans submitted for permit.



ADDITIONS INFORMATION SHEET

This pamphlet is a guide to the most common questions and issues. It is not intended nor shall it be considered a complete set of requirements.



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 www.doli.state.mn.us

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Building Permits

- A. **Survey or scale drawing** must be submitted by owner or applicant. The following must be indicated:
1. Lot size and all adjacent public streets;
 2. Exact location and dimensions of all existing and proposed buildings and imperious surface on lot; i.e. driveways, patios, sidewalks;
 3. Owner must be able to show corner irons on the site at footing inspection to the satisfaction of Building Inspector;
 4. Statement of elevation where elevation is not shown on survey.
- B. **Two sets of plans**—Submitted plans must have sufficient detail to build the addition from them. A plan view, section view and elevations are required; drawn to scale. Indicate all materials and sizes being used.
- C. See next page for **energy code requirements**.
- D. **Permit Application** must be completed. Be sure you include your daytime phone number.
- E. **Certificate of Occupancy** is issued to owner upon completion and approval of the Building Official. Addition must not be occupied until the Certificate of Occupancy is received.

Framing Requirements

- A. **Base Plates** on concrete shall be of approved treated wood.
- B. **Studs** Minimum 2 x 4 studs, not more than 10 feet in length. Maximum 24 inches O.C. spacing. If only one top plate is used, trusses or rafters must bear over studs (1 inch tolerance allowed.)
- C. **Rafters and Roof sheathing** shall be designed for a 40 lb./square foot. live load. Trusses **must** be engineered by an approved manufacture. Truss specs must be on site. Rafters shall be nailed to adjacent ceiling joists to form a continuous tie between exterior walls when such joists are parallel to the rafters. When not parallel, rafters shall be tied to 2 x 4 minimum cross ties. Rater ties shall not be spaced more than four feet on center.
- D. **Allowable header spans** for openings in outside bearing walls on one story frame buildings, assuming a 16 foot wide addition and a 2 foot overhang. Spans are both spruce-pine-fir and hem-fir.

Quantity	Size In Inches	Maximum Span Of Header
2	2 x 4	3 feet
2	2 x 6	4 feet
2	2 x 8	6 feet
2	2 x 10	7 feet
2	2 x 12	8 feet

- E. **Allowable rafter spans** for roofs with a pitch of 3-12 or greater; assumes a "dead Load" of seven pounds per square foot (PSF) and a deflection limit of 1/180 (span in inches divided by 180).

Spruce-pine-fir (SPF) #2 or better

Rafter size	Ceiling type					
	Flat	Vaulted	Flat	Vaulted	Flat	Vaulted
2 X 6	12'-8"	11'-9"	11'-0"	10'-2"	9'-0"	8'-4"
2 X 8	16'-1"	14'-10"	13'-11"	12'-11"	11'-5"	10'-6"
2 X 10	19'-8"	18'-2"	17'-0"	15'-9"	13'-11"	12'-10"
2 X 12	22'-9"	21'-1"	19'-9"	18'-3"	16'-1"	14'-11"

Hem-fir #2 or better

Rafter size	Ceiling type					
	Flat	Vaulted	Flat	Vaulted	Flat	Vaulted
2 X 6	12'-6"	11'-5"	10'-10"	10'-0"	8'-10"	8'-2"
2 X 8	15'-10"	14'-8"	13'-9"	12'-8"	11'-3"	10'-4"
2 X 10	19'-4"	17'-11"	16'-9"	15'-6"	13'-8"	12'-8"
2 X 12	22'-6"	20'-9"	19'-5"	18'-0"	15'-11"	14'-8"

F. Allowable ceiling joist spans

Assumes limited attic storage (20PSF) and drywall ceilings.

Joist size	Spruce-pine-fir #2		Hem-fir #2	
	16" O.C.	24" O.C.	16" O.C.	24" O.C.
2 X 4	8'-7"	7'-2"	8'-4"	7'-1"
2 X 6	12'-10"	10'-6"	12'-8"	10'-4"
2 X 8	16'-3"	13'-3"	16'-0"	13'-1"
2 X 10	19'-10"	16'-3"	19'-7"	16'-0"

G. Allowable floor joist spans

Joist size	Spruce-pine-fir #2			Hem-fir #2		
	12" O.C.	16" O.C.	24" O.C.	12" O.C.	16" O.C.	24" O.C.
2 x 6	10'-3"	9'-4"	8'-1"	10'-0"	9'-1"	7'-11"
2 X 8	13'-6"	12'-3"	10'-3"	13'-2"	12'-0"	10'-2"
2 X 10	17'-3"	15'-5"	12'-7"	16'-10"	15'-2"	12'-5"
2 X 12	20'-7"	17'-10"	14'-7"	20'-4"	17'-7"	14'-4"

Sheathing

Sub floor and roof sheathing may be of approved wood structural panels (plywood, oriented strand board). Panels must be installed continuous over two or more spans with long dimension perpendicular to supports.

Wall sheathing may be of approved plywood, fiber board, gypsum,

hardboard panels or 1 inch boards which would require diagonal bracing at corners and at 25 foot intervals. Fiberboard may not be used where studs are 24 inches OC and 4 x8 foot or 4 x 9 foot sheets must be installed vertically.

Panel ID Index	Plywood Thickness In inches	Maximum in inches		
		Roof Span (with edges)		Floor Span
		Blocked	Unblocked	
24/0	3/8	24	16	0
24/0	1/2	24	24	0
30/12	5/8	30	26	12
32/16	1/2, 5/8	32	28	16
36/16	3/4	36	30	16

Light, ventilation and ceiling height

All habitable rooms shall have a window area equal to at least eight percent of the floor area. The minimum open able area to the outdoors shall be 4% of the floor area being ventilated.

Note: Some excerptions apply.

To determine light and ventilation, any room may be considered a portion of an adjoining room when half of the area of the common wall is open and unobstructed. The opening must not be less than on tenth of the area but never less than 25 square feet.

Minimum ceiling height for habitable spaces is 7 feet.

Energy Code Requirements

Additions and alterations to homes built after April 15, 2000, must include methods, materials and mechanical equipment to meet the provision of the current *Minnesota Energy Code*. Go to: www.energycodes.gov/rescheck/download.stm and click on Minnesota. Any alterations in the field from what the City initially approved must be accompanied by a revised RES Check form indicating the project still passes code.

Note: The energy rating stickers must be left on doors and windows until the inspector has verified conformance with the application.

Crawl Space

Minimum depth between joist bottom and ground is 18 inches. Space shall be ventilated either to basement or outside. If the crawl space is vented to the outside, the floor below the heated space must be insulated to R030. Minimum net free access to the crawl space must be at least 18 x 24 inches. Exterior ventilation is not required when ground is covered with 6-mil. Poly, the space is supplied with conditioned air and the perimeter walls are insulated.

Attic Ventilation

Attics above hated spaces must be provided with ventilation equivalent to 1/300th of the attic area, equally distributed between soffit vents and high roof or ridge vents.

Flashing (corrosion-resistive)

Required over all exterior exposed openings. Flashing must be designed to shed water **away** from the building wall. When installing vinyl siding manufacturer's installation instructions **must** be followed.

Valley Flashing for Asphalt Shingles

For metal valley minimum 24 inches-wide 26-gauge is required. For open and closed valleys (no metal) manufacturer's instructions must be followed.

Crickets

A cricket is required for any chimney greater than 30 inches wide.

Shingles

Shall not be installed on roofs with a slope of less than 2-12.

Roof Starter Strip

For ice dam protection, a manufactured ice dam protection membrane shall be installed to a point no less than 24 inches inside the exterior wall line. This product **must** be installed per the manufacturer's instructions. Product to start **on** fascia board.

Sleeping Rooms

Every sleeping room shall have an exterior door or an egress window meeting all these requirements:

- 1 Sill height - not more than 44 inches above the floor.
 - 2 Open able area - not less than 5.7 square feet.
- Exception:** An egress window at grade floor may have a net square opening of 5 square feet.
- 3 Opening Height - not less than 24 inches.
 - 4 Opening width - not less than 20 inches.

If this egress window is below exterior grade, then a window well is required. The well must provide a minimum of nine square feet net clear opening with the window open and a minimum 36 x 36 inch area from the **open** window to the well. (see egress/escape windows brochure).

Foam Plastic Insulation

Shall be an approved type of covered with 1/2 inch gypsum board or equivalent material. Exposed foam plastic insulation is not allowed in any room, including crawl spaces and attics.

Weather-resistive Sheathing Paper

A minimum of one layer of No. 15 asphalt felt or other approved weather-resistive material shall be applied over sheathing of all exterior walls. Lap a minimum of 2 inches horizontally and 6 inches vertically at joints. **An inspection is required prior to installing any soffits or siding.**