



This handout is intended only as a guide and is based in part on the 2015 Minnesota State Building Code, Robbinsdale City ordinances, and good building practice. While every attempt has been made to insure the correctness of this handout, no guarantees are made to its accuracy or completeness. Responsibility for compliance with applicable codes and ordinances falls on the owner or contractor. For specific questions regarding code requirements, refer to the applicable codes or contact the Building Official at the City of Robbinsdale.

## ADDITION INFORMATION

Please submit the following information in addition to the building permit application:

1. Two copies of a survey and scale drawing showing the following information;
  - a) The lot size and all adjacent streets,
  - b) Exact location and dimensions of all existing and proposed buildings on the lot, and
  - c) Corner monuments (to the satisfaction of the Building Official).
2. A statement of elevations when elevations are not shown on the survey,
3. Information showing compliance with all zoning and building regulations,
4. Two copies of construction plans, and
5. Completed energy calculations or information showing compliance with the energy code.

Building permits will not be granted for the construction of any building or structure upon land which is not platted and described as a lot or a tract of a registered land survey, except as provided in Section 16-04 of the Robbinsdale City Code. Building permits will also not be granted on any lot that does not abut upon a public street.

### **FRAMING**

Base plates on concrete must be treated wood or of a durable species such as redwood or cedar.

Studs supporting floors must be spaced not more than 16" O.C. (On Center), 2 x 4 studs not more than 10' in length and, supporting ceiling and roof studs must be spaced 24" O.C. Where studs are spaced 24" O.C., the framing above must be centered over studs.

When joists are parallel to rafters, rafters must be nailed to adjacent ceiling joists to form a continuous tie between the exterior walls. Where joists are not parallel to rafters, rafters shall be tied to 2 x 4 (minimum) cross ties. Rafter ties shall be spaced no more than 4' O.C.

Header spans for openings in the outside bearing walls on one-story frame buildings with center bearing walls (assuming a maximum joist span of 14') are;

- (2) 2 x 4's; 3 ft maximum (on edge)
- (2) 2 x 6's; 6 ft (w/Douglas Fir), or 5 ft maximum (w/Hem-Fir)
- (2) 2 x 8's; 8 ft (w/Douglas Fir), or 7 ft maximum (w/Hem-Fir)
- (2) 2 x 10's; 10 ft (w/Douglas Fir), or 9 ft maximum (w/Hem-Fir)
- (2) 2 x 12's; 12 ft (w/Douglas Fir), or 11 ft maximum (w/Hem-Fir)

Garage door headers for a 16' opening are:

- No roof load; (2) 2 x 12's
- Hip roof load; (2) 2 x 14's
- Full roof load; (3) 2 x 14's (must be 1 Douglas Fir or equivalent designed beam).

Garage door headers for an 18' opening and/or garages that are longer than 24' will require a special design.

## **INSULATION**

Foam plastic insulation must be covered with ½” gypsum board using mechanical devices unless covered with earth. Exposed foam plastic insulation is not allowed in any room, including crawl spaces and attics.

## **PANELING**

Any paneling less than ¼” in thickness must be applied over gypsum wallboard.

## **SHEATHING**

Wall sheathing may consist of approved plywood, fiber board, gypsum board or hardboard panels. 1” board may be used however this requires diagonal bracing at corners and at 25’ intervals. Fiber board may not be used where studs are 24” O.C.

### **ALLOWABLE SPANS FOR PLYWOOD SUBFLOOR AND ROOF SHEATHING CONTINUOUS OVER TWO OR MORE SPANS AND FACE GRAIN PERPENDICULAR TO SUPPORTS:**

Panel Identification Index	Plywood Thickness (inches)	ROOF				Floor maximum span (in inches)
		Maximum Span (in inches)		Load in Pounds per Square Foot		
		Edges Blocked	Edges Unblocked	Total Load	Live Load	
12/0	5/16	12		155	150	0
16/0	5/16, 3/8	16		95	75	0
20/0	5/16, 3/8	20		75	65	0
24/0	3/8	24	16	65	50	0
24/0	1/2	24	24	65	50	0
30/12	5/8	30	26	70	50	12
32/16	1/2, 5/8	32	28	55	40	16
36/16	1/4	36	30	55	50	16
42/20	5/8, 3/4, 7/8	42	32	40	35	20
48/24	3/4, 7/8	48	36	40	35	24

## **LIGHT AND VENTILATION**

All habitable rooms must have a window area equal to at least 8% of the floor area. At least half of the window must be openable. For the purpose of determining light and ventilation requirements, any room may be considered as a portion of an adjoining room when half of the area of the common wall is open, unobstructed, and provides an opening of not less than one-tenth of the floor area of the interior room, or 25 sq ft, whichever is greater. Required windows must open directly to a street, public alley, yard, or court located on the same lot as the building.

## **WINDOWS IN SLEEPING ROOMS**

Every sleeping room must have at least one window meeting *all* of the following requirements:

- The height of the window sill cannot be more than 44" above the floor,
- The total openable area of the window cannot be less than 5.7 sq ft, and
- The window cannot have less than a 24" open height and a 20" open width.

## **CEILING HEIGHT**

The minimum ceiling height is 7'-0".

## **CRAWL SPACES**

The minimum depth between the bottom of a joist and the ground is 18". The ground must be covered with an approved vapor barrier. Crawl spaces must be ventilated either to a basement or to the outside. An access with a minimum size of 18" x 24" is required. This access, if left unobstructed may also serve as a vent for areas up to 250 square feet. No foam plastic insulation is allowed in any crawl space.

## **ATTIC VENTILATION**

Provide at least one 50" roof vent and (2) 50 square inch soffit vents for each 250 sq ft of floor area.

## **ROOFS**

Valley flashing must be a minimum 28 gauge stainless steel extending at least 8" from the center line each way and shall have a ¼" rib at flow line formed as part of the flashing. An underlay of not less than 30# felt shall be provided, extending 18" each way from the center line. Flashing is required over all exterior exposed openings. Composition shingles are not allowed on roofs with slopes less than 4:12 unless approved by the building official. An ice barrier (ice and water shield) shall extend from the eave up to a point of 24" inside the exterior wall line (36" for wood shingles or wood shakes).

## **FIRE PROTECTION**

Garages must be separated from living areas with approved materials such as ½" thick gypsum board, or equivalent, applied to the garage side. A tight fitting solid wood door 1-3/8" in thickness shall be provided where a doorway penetrates the firewall. No such doorway shall open directly into a room used for sleeping purposes. Garages built closer than 6' to an existing dwelling and/or dwelling additions built closer than 6' to an existing garage, shall have fire protection as required for attached garages. Garage walls within 18" to 36" of a side lot line shall be fire protected with a one-hour rated firewall and shall have no openings.

## **FIRE WARNING SYSTEM**

When alterations, repairs, or additions requiring a permit occur, or when one or more sleeping rooms are added or created in existing dwellings, the individual dwelling unit shall be equipped with smoke detectors located as required for new dwellings, and the smoke detectors shall be interconnected and hardwired. However, if the alterations or repairs do not result in the removal of interior walls or ceiling finishes exposing the structure, smoke detectors may be battery operated. Smoke detectors shall be mounted on the ceiling or wall at a point centrally located in a hall/corridor or an area leading to the sleeping rooms. Upper level detectors shall be placed at the center of the ceiling directly above the stairway. Smoke detectors are required on each level of the dwelling *and* in each sleeping room.

**THIS DOCUMENT WAS WRITTEN AS A GUIDE TO THE MOST COMMON QUESTIONS AND PROBLEMS.  
IT WAS NOT INTENDED NOR SHALL IT BE CONSIDERED A COMPLETE SET OF REQUIREMENTS.**

*These requirements may change without notice.*

## SPAN TABLES FOR NO. 2 GRADE WOOD MEMBERS AND "I" JOISTS

### FLOOR JOISTS

40# LL + 10# DL L/360

	2 x 6			2 x 8			2 x 10			2 x 12		
	12" OC	16" OC	24" OC	12"OC	16" OC	24" OC	12" OC	16" OC	24" OC	12" OC	16" OC	24" OC
Douglas Fir- Larch	10-9	9-9	8-1	14-2	12-7	10-3	17-9	15-5	12-7	20-7	17-10	14-7
Hem - Fir	10-0	9-1	7-11	13-2	12-0	10-2	16-10	15-2	12-5	20-4	17-7	14-4
Ponderosa Pine	9-2	8-4	7-0	12-1	10-10	8-10	15-4	13-3	10-10	17-9	15-5	12-7
Southern Pine	10-9	9-9	8-6	14-2	12-10	11-0	18-0	16-1	13-5	21-9	19-0	15-4
S-P-F	10-3	9-4	8-1	13-6	12-3	10-3	17-3	15-5	12-7	20-7	17-10	14-7
Western Cedars	9-2	8-4	7-3	12-1	11-0	9-2	15-5	13-9	11-3	18-5	16-0	13-0
Western Woods	9-2	8-4	7-0	12-1	10-10	8-10	15-4	13-3	10-10	17-9	15-5	12-7
TJI®/15	Flange Width = 1 ½"						18-9	17-2	15-1	22-4	20-5	15-1
TJI®/25	Flange Width = 1 ¾"						19-7	17-11	15-9	23-4	21-4	18-4
LPI™/ 32	Flange Width = 2 ½"						19-0	18-6	15-11	23-9	22-0	18-10

### RAFTERS: FLAT CEILING ROOMS; ATTACHED GARAGES

40# LL + 7# DL L/180

	2 x 6			2 x 8			2 x 10			2 x 12		
	12" OC	16" OC	24" OC	12"OC	16" OC	24" OC	12" OC	16" OC	24" OC	12" OC	16" OC	24" OC
Douglas Fir- Larch	12-8	11-0	9-0	16-1	13-11	11-5	19-8	17-0	13-11	22-9	19-9	16-1
Hem - Fir	12-6	10-10	8-10	15-10	13-9	11-3	19-4	16-9	13-8	22-6	19-5	15-11
S-P-F	12-8	11-0	9-0	16-1	13-11	11-5	19-8	17-0	13-11	22-9	19-9	16-1
Western Woods	10-11	9-6	7-9	13-10	12-0	9-10	16-11	14-8	12-0	19-8	17-0	13-11

### RAFTERS: VAULTED CEILINGS

40# LL = 15# DL L/240

	2 x 6			2 x 8			2 x 10			2 x 12		
	12" OC	16" OC	24" OC	12"OC	16" OC	24" OC	12" OC	16" OC	24" OC	12" OC	16" OC	24" OC
Douglas Fir- Larch	11-9	10-2	8-4	14-10	12-11	10-6	18-2	15-9	12-10	21-1	18-3	14-11
Hem - Fir	11-5	10-0	8-2	14-8	12-8	10-4	17-11	15-6	12-8	20-9	18-0	14-8
S-P-F	11-9	10-2	8-4	14-10	12-11	10-6	18-2	15-9	12-10	21-1	18-3	14-11
Western Woods	10-1	8-9	7-2	12-10	11-1	9-1	15-8	13-7	11-1	18-2	15-9	12-10
TJI®/15	Low Slope: Roof Pitch 6:12 or less							17-4	15-1		20-11	17-1

TJI®/15	High Slope: Roof Pitch greater than 6:12		15-8	13-8		18-11	16-5
LPI™/ 32	Low Slope: Roof Pitch 6:12 or less	22-6	20-4	16-1	26-10	23-6	19-2
LPI™/ 32	High Slope: Roof Pitch greater than 6:12	22-0	19-7	16-0	26-1	22-8	17-7

**RAFTERS: DETACHED GARAGES**

30# LL = 7# DL I/180

	2 x 6			2 x 8			2 x 10			2 x 12		
	12" OC	16" OC	24" OC	12"OC	16" OC	24" OC	12" OC	16" OC	24" OC	12" OC	16" OC	24" OC
Douglas Fir- Larch	14-4	12-5	10-1	18-2	15-8	12-10	22-2	19-2	15-8	25-8	22-3	18-2
Hem - Fir	13-10	12-3	10-0	17-10	15-6	12-8	21-10	18-11	15-5	25-4	21-11	17-11
S-P-F	14-4	12-5	10-1	18-2	15-8	12-10	22-2	19-2	15-8	25-8	22-3	18-2
Western Woods	12-4	10-8	8-9	15-8	13-6	11-1	19-1	16-6	13-6	22-2	19-2	15-8

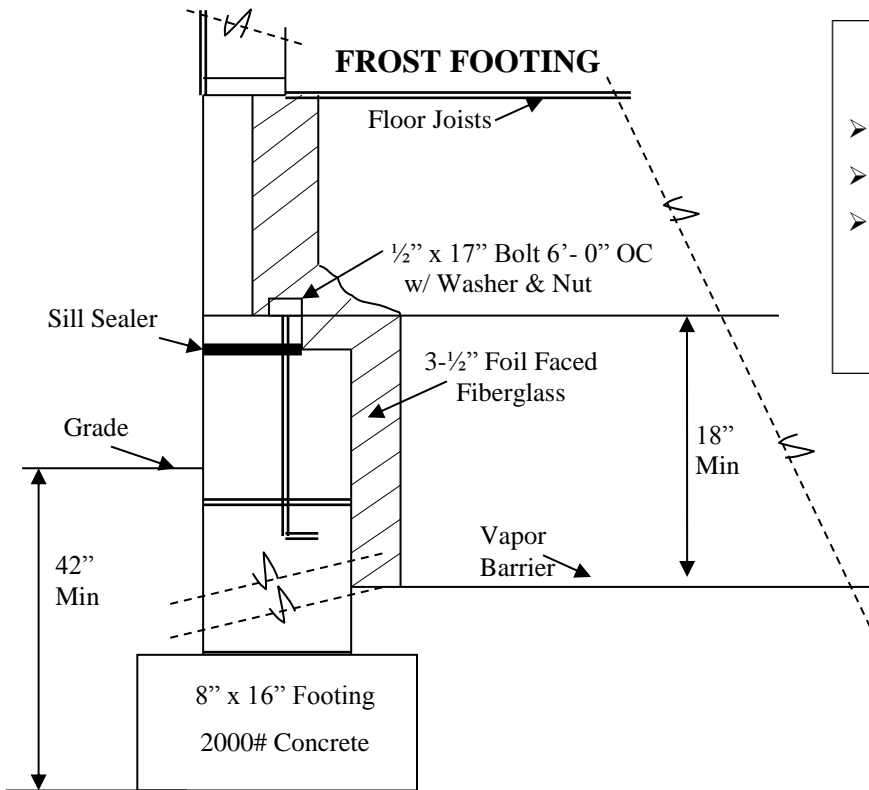
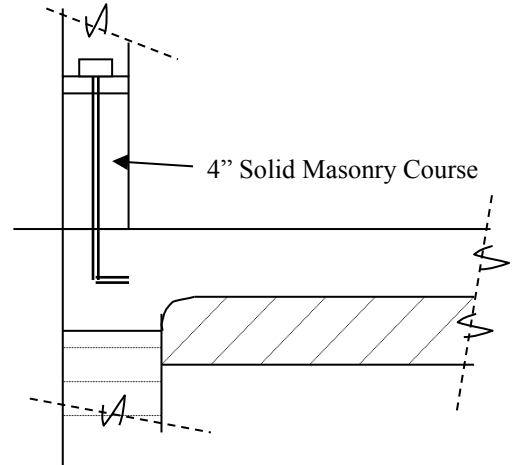
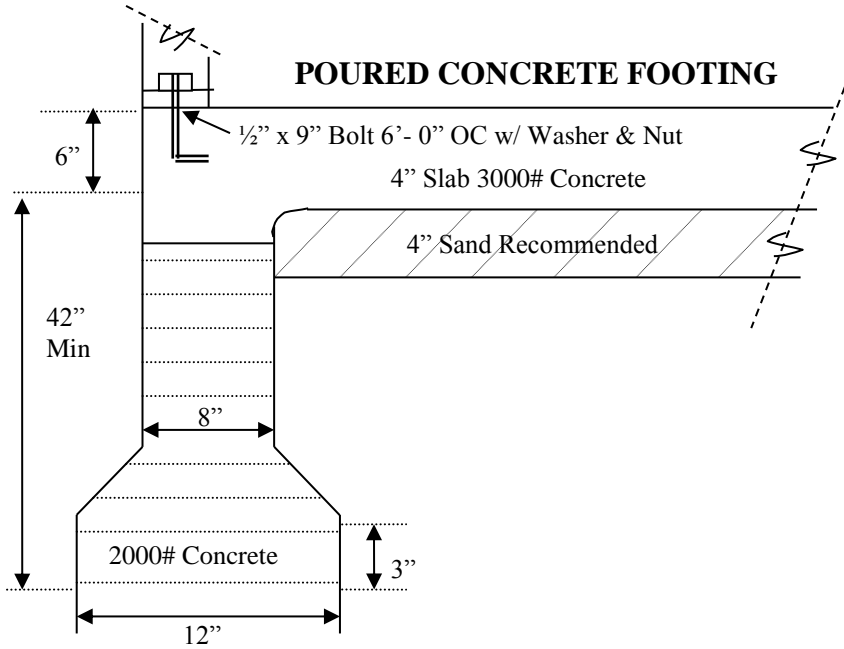
**CEILING JOISTS**

20# LL + 10# DL I/240

	2 x 4			2 x 6			2 x 8			2 x 10		
	12" OC	16" OC	24" OC	12"OC	16" OC	24" OC	12" OC	16" OC	24" OC	12" OC	16" OC	24" OC
Douglas Fir- Larch	9-10	8-9	7-2	14-10	12-10	10-6	18-9	16-3	13-3	22-11	19-10	16-3
Hem - Fir	9-2	8-4	7-1	14-5	12-8	10-4	18-6	16-0	13-1	22-7	19-7	16-0
S-P-F	9-5	8-7	7-2	14-9	12-10	10-6	18-9	16-3	13-3	22-11	19-10	16-3
Western Woods	8-5	7-7	6-2	12-9	11-1	?	16-2	14-0	11-5	?	17-1	14-0

O.C. = On Center

# Footings and Concrete Slab Details

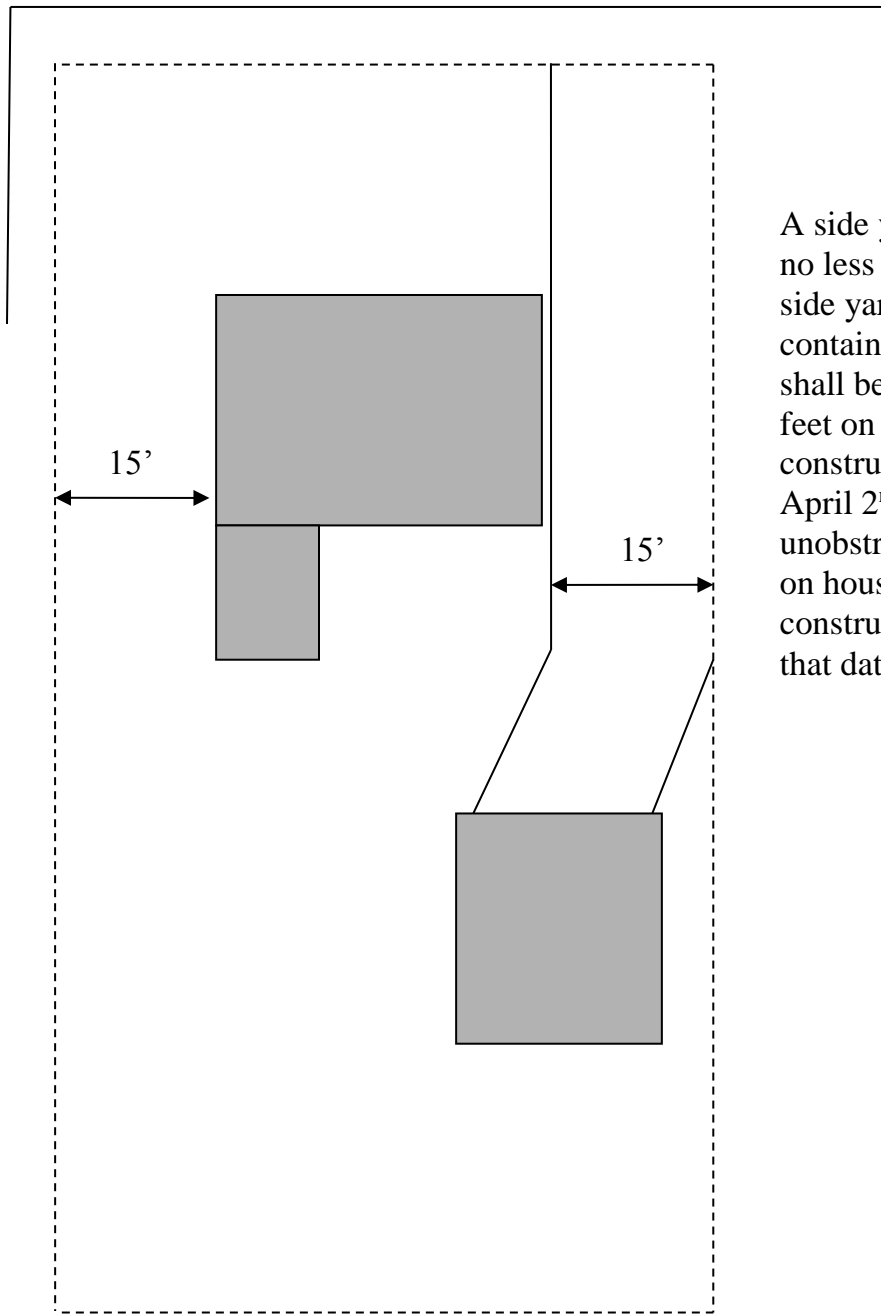


- CONCRETE BLOCK FOOTING**
- Ventilate crawl space
  - Provide 18" x 24" access
  - No rigid foam plastic insulation allowed unless protected with materials having an approved thermal barrier of 15 minutes.

**DRAWINGS ARE NOT TO SCALE**

STREET

Side yards abutting a public right-of-way (street) shall not be less than 15 feet from the right of way *except* in the case of 40 foot lots the side yard may be reduced to five feet from the right-of-way.



A side yard width is no less than 5 feet. A side yard that contains a driveway shall be at least 15 feet on houses constructed after April 2<sup>nd</sup>, 1991 or an unobstructed 10 feet on houses constructed prior to that date.

Rear yard depth: 20% of lot depth

**DRAWINGS ARE NOT TO SCALE**