

# City of Willmar Garage Handout

Building permits are required for construction of all garages. The Minnesota State Building Code differentiates between attached and detached garages and there are some differences in the requirements. Garages must also meet the land use and setback requirements of the City of Willmar Zoning Ordinance. Zoning questions should be directed to the Zoning office at 320-235-8311.

Permit fees are established by City Ordinance. The plan review is done by the building inspector in order to spot potential problems or pitfalls that may arise prior to starting construction. The inspector will make notes on the plan for your use. Construction inspections will be done during the project to insure code compliance. The plan review and inspections are done to provide a reasonable degree of review and observation so the project will be successful, safe, and long-lasting. Actual permit costs can be obtained by calling your local Building Inspection Department with your construction costs; these costs include both material and labor.

## **REQUIRED INSPECTIONS**

**Footing / Concrete slab** - To be made after all form work is set up, mesh laid, rods wired, etc. but **PRIOR TO POURING CONCRETE.**

**Framing** - To be made after all framing, blocking, bracing and rough electrical (if any) are in place. (This inspection can be completed at the time of the final inspection if all parts will be visible and accessible at the final inspection.)

**Final** - To be made after the electrical final and finished grading has been completed.

**Other inspections** - In addition to the inspections listed above, the inspector may make or require other inspections to ascertain compliance with the provisions of the building code or to assist you with your questions or concerns during the construction process.

## **PLANS: SITE, FLOOR, and ELEVATIONS**

The following examples show the minimum detail expected so the permit process can proceed smoothly. Plans should include all of the information requested.

*GENERAL BUILDING CODE REQUIREMENTS: Floating slab garages cannot exceed 1000 ft<sup>2</sup> without providing a structurally engineered slab. The plans must be designed and signed by a Minnesota licensed structural engineer.*

**Footings** must extend to frost depth for all attached garages. A floating slab may be used for the foundation support of detached garages on all soils except peat and muck. The slab perimeter must be sized and/or reinforced to carry all designed loads. The minimum slab thickness must be 3<sup>1</sup>/<sub>2</sub> inches and reinforcing is recommended. The minimum concrete strength required is 5000 pounds per square inch. Concrete must be protected from freezing until cured.

**Anchor Bolts or Straps:** foundation plates must be anchored to the foundation with not less than ½ inch diameter anchor bolts, or approved straps, embedded at least 7 inches into the concrete and spaced not more than 6 feet apart. There must be at least two bolts per sill piece. There must be a bolt located within 12 inches of all corners. Anchor straps must be installed per the manufacturer's specifications.

**Sill Plates:** All foundation plates on sills and sleepers on a concrete or masonry slab, which is in direct contact with earth, and sills which rest on concrete or masonry foundations must be of approved treated wood, heartwood of redwood, black locust or cedars having a width of not less than that of the wall studs.

**Wall Framing:** Studs must be placed with their wide side perpendicular to the wall, and not less than three studs must be installed at each corner of an exterior wall. The Minimum stud size is 2"x4" and can not be spaced more than 24 inches on center.

**Top Plate:** Bearing and exterior wall studs need to be capped with double top plates installed to provide overlapping at corners and at intersections with other partitions. End joints in double top plates must be offset at least 24 inches. (Exception: see the 2015 MSBC section R602.3.2)

**Sheathing, Roofing, and Siding:** Approved wall sheathing, siding, roof sheathing, and roof covering must be installed according to the manufacturer's specifications. Wall sheathing may be required to have a weather-resistive barrier installed over the product prior to application of the siding product.

**Wood and Earth Separation:** Wood used in construction located nearer than 6 inches to earth shall be of treated wood or wood that is naturally resistant to decay.

**Roof Framing:** Size and spacing of conventional lumber used for roof framing depends upon the roof pitch, span, the type of material being used, and the loading characteristics being imposed. Garages must be designed for the appropriate snow load in our area. (35 pounds per square foot.) A snow load map is posted at: [www.doil.state.mn.us/pdf/bc\\_map\\_snowload.pdf](http://www.doil.state.mn.us/pdf/bc_map_snowload.pdf). Rafters need to be framed directly opposite each other at the ridge. A ridge board at least 1 inch nominal thickness and not less in depth than the cut end of the rafter is required for hand framed roofs. At all valleys and hips, there also needs to be a single valley or hip rafter not less than 2 inches nominal thickness and not less in depth than the cut of the rafter and be designed as a beam. Rafters must be nailed to the adjacent ceiling joists to form a continuous tie between exterior walls when the joists are parallel to the rafters. Where not parallel, rafters must be tied by a minimum 1 inch by 4 inch cross tie spaced a minimum 4 foot on center. Manufactured trusses are to be installed per the manufacturer.

**Separation Method:** The garage shall be separated from the residence and the attic by not less than ½ inch gypsum board applied on the garage side. Garages beneath habitable rooms shall be separated from habitable rooms by not less than 5/8 inch gypsum board applied to the garage side. Where the separation is a floor-ceiling assembly, the structure supporting the separation shall also be protected by not less than 5/8 inch gypsum board or equivalent. Openings between the garage and the residence must be equipped with solid wood doors not less than 1 3/8 inch in thickness, solid or honeycomb core steel doors not less than 1 3/8 inch thick, or 20 minute fire-rated doors. Fire tape all drywall seams not landing on a framing member.

**Concrete curb blocks:** Concrete masonry curb blocks shall be at least 6-inch-modular in width. *(4-inch-curb blocks are not permitted by code.)*

**Reduction in block width:** Requires the course below the reduction be of solid masonry or be slugged solid.

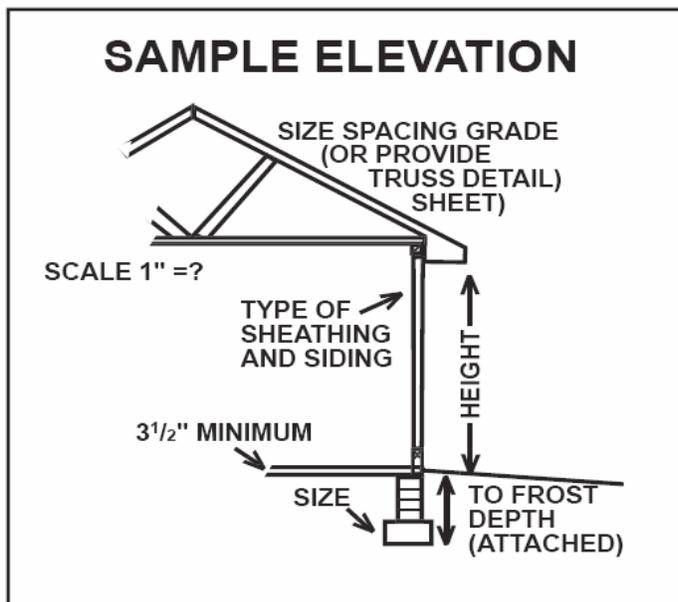
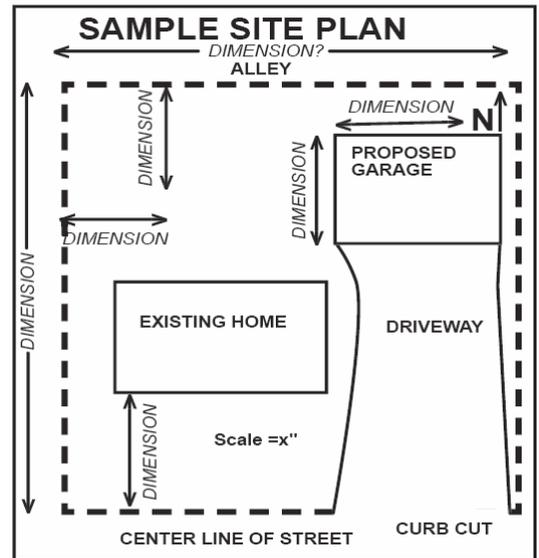
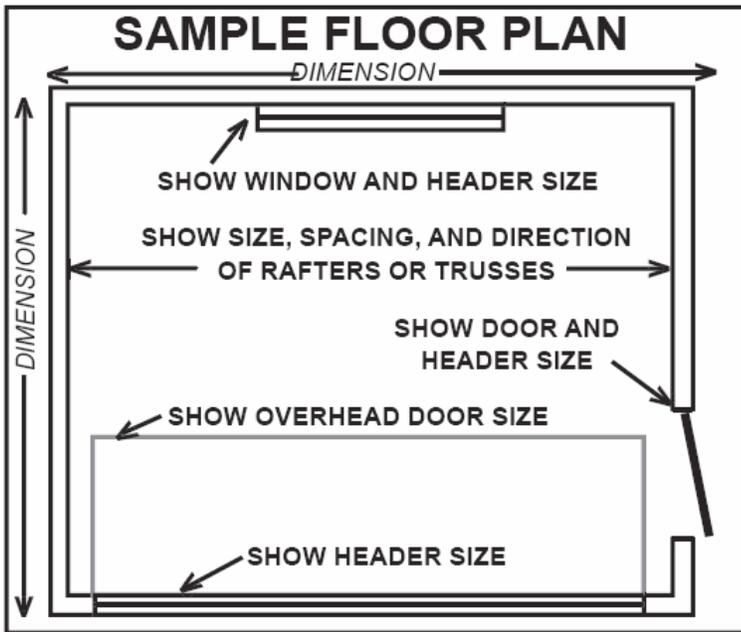
**Building separation:** Garages located less than 5 feet from a dwelling on the same lot shall be protected with not less than ½" gypsum board applied to the interior side of the exterior walls parallel to the dwelling unit or the property line.

**PLANS: SITE, FLOOR, AND ELEVATIONS**

The following samples show the minimum detail expected so the permit process can proceed smoothly. Plans should include all of the information requested. **Submit two copies of a survey or site plan** drawn to scale indicating the lot dimensions, the location and size of the existing structures, and the location and size of the proposed structure. Indicate the setback from property lines of the existing and proposed structures. Also include septic system location and private wells if applicable.

**SITE PLAN**

1. Proposed size of garage
2. Location and size of door and window openings.
3. Size of headers over all door and window openings.
4. Size, spacing, and direction of rafter (roof) materials.
5. Type (grade and species) of lumber to be used.



**ELEVATIONS:**

1. Height of the structure above grade.
2. Size and depth of the footings.
3. Wall and roof construction.

