

- Signed, completed Building Permit application form.
- Two (2) copies of plans showing proposed layout and materials. Plans shall be drawn to scale and shall include the following information:
  - A. A flooring plan indicating:
    - Location and type (block or stud) of exterior basement walls.
    - Location of all existing and proposed walls of basement with dimensions.
    - Name of each existing and proposed room.
    - Location and sizes of windows and doors.
    - Location of existing or proposed plumbing fixtures; furnace and water heater.
    - Location of stairway, fireplaces, etc.
    - Location of smoke detector.
    - Wall, floor and ceiling finish materials.
    - Existing and proposed insulation, vapor barrier and moisture barrier.
    - Attached are examples of drawings which are intended as a guide only.
  - B. A cross section plan indicating the following:
    - Proposed finished ceiling height.
    - Wall, floor, and ceiling finish materials.
    - Existing and proposed insulation and vapor barrier.

#### **GENERAL BUILDING CODE REQUIREMENTS**

- Bottom plates of proposed walls shall be of approved treated wood.
- Properly sized beams and headers must be used in structural bearing conditions. Specify intended sizes of such beams and headers on plans,
- Open side(s) of stairways more than 30" above the floor shall be provided with a handrail having intermediate rails spaced less than 4" apart.
- Enclosed usable space under stairs must be protected on the underside with ½" thick gypsum wall-board.
- A smoke detector shall be installed in all bedrooms and hallway closest to the bedroom. These detectors shall be interconnected.
- Carbon monoxide detectors shall be installed within 10 feet of any sleeping area.
- Each bedroom and basement or finished area shall be provided with an escape or rescue window having:
  - A minimum net clear openable area of 5.0 square feet for grade floor openings.
  - A minimum net clear opening height dimension of 24 inches.
  - A minimum net clear opening width dimension of 20 inches.
  - A finished sill height of not more than 44 inches above the floor.
- Foam plastic (rigid) insulation shall be protected on the interior by not less than ½" thick gypsum board.
- Fiberglass insulation must be covered on the interior by not less than a 4-mil thick vapor barrier.
- Exposed insulation shall be covered with a 4-mil poly fire retardant barrier.
- A separation from the exterior foundation wall and fiberglass insulation is required (e.g. protective coating such as rigid foam or provide a minimum 1" space from wall).
- Each water closet stool shall be a maximum 1.6 gallon flush volume and shall be located in a clear space not less than 30 inches in width and have a clear space in front of the water closet stool of not less than 24 inches.

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- Each bathroom shall be provided with an openable window or a powered exhaust fan which vents to the exterior. Insulation and vapor barrier required on vent pipe for a distance of 3 feet from the exterior.
- The minimum permitted ceiling height in habitable rooms (meaning finished family rooms and bedrooms) is 7 feet.
  - Exception:*
    - A. *Beams and girders spaced not less than 4' on center may project not more than 6" below the required ceiling height.*
    - B. *Not more than 50% of the required floor area of a room or space is permitted to have a sloped ceiling less than 7' in height with no portion of the required floor area less than 5' in height.*
- Furnace shall have an unobstructed working space of not less than 30" in front and shall be provided with outside combustion air. Furnaces may not be accessed through, or located in a bedroom, bathroom or storage closet.
- Compression fittings are not approved in gas piping applications. No concealed, flared union gas fittings are allowed.
- Dissimilar materials must not be attached directly to each other, i.e., PVC must not be glued to ABS waste and vent.
- An approved anti-scald (thermostatic or pressure-balancing type) faucet must be installed in new shower or shower/bath installations.
- Mechanical ventilation shall be provided by a method of supply air and return air. The amount of supply air shall be equal to the amount of return air.

### **MECHANICAL CODE REQUIREMENTS**

- Must be able to heat all habitable spaces to a minimum 68 degrees.
- Return air ducts should not be installed in closets, kitchens (unless at least 10 feet from cooking appliances), laundry rooms, bathrooms, storage or mechanical rooms.
- Bathrooms must have an operable window, bath fan, or have a draw point air exchanger. The duct must be insulated a minimum of 3' inside the exterior wall.
- White plastic flexible duct for dryer vent or bath fan exhaust is prohibited. Metal duct (dryer) or UL listed insulated flexible duct (bath fan) is approved.
- Supply heat ducts shall be metal or listed flexible duct. Supply ducts in exterior walls shall be insulated with 1–1/2 foam on cold side. Plastic pipe is prohibited.
- Return air ducts shall be ducted of metal or listed flexible duct. Plastic pipe is prohibited. Use of stud cavity for return air is not allowed per Energy Code.
- Duct joints must be sealed and secured with minimum 3 sheet metal screws.
- Provide combustion air for the furnace and water heater supplied in the mechanical room.
- All new gas lines must be air tested to 25 pounds for 10 minutes minimum and be supported every 4 feet with straps. Label all gas lines in mechanical room.
- Provide 30" minimum clear working space in front of furnace and water heater.
- Provide minimum 1" clearance from furnace B-Vent to combustibles.
- Provide at least 6" clearance from single wall furnace and water heater vents to combustibles.

For additional City information, please check the website or contact City Hall at:

[www.stmichaelmn.gov](http://www.stmichaelmn.gov)

11800 Town Center Drive NE, Suite 300, St. Michael, MN 55376

[inspections@stmichaelmn.gov](mailto:inspections@stmichaelmn.gov) (Email) 763-497-2041 (Phone)

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- Vent-less gas appliances or fireplaces are prohibited in Minnesota.

### **PLUMBING CODE REQUIREMENTS:**

- Homes with septic system and adding a bedroom will need a compliance inspection performed by a licensed SSTS Inspector.
- Showers built on site shall be lined and comply with Minnesota Plumbing Code 408.7.
- Newly installed dishwashers shall discharge through an approved air gap.
- Ice makers and dishwashers water lines shall have shock arrestors installed.
- Newly installed floor drains shall be vented within 60”.
- Water closet (toilet) shall be vented with minimum 2” pipe.
- Cannot glue ABS (black) to PVC (white) pipe together. Must install listed connector.
- Clearance to water closet (toilet) must be 24” in front and 15” from the center of the water closet to each side.
- Showers and tub-shower combination control valves shall be provided and installed in accordance with ASSE 1016 or ASME A112.18.1/CSA B125.1 listing.
- Cannot use PVC for water piping. Pex water pipe may be used when installed by the homeowner or a licensed plumber certified to install Pex water piping.
- Provide nail plates or stud guards to protect the plumbing pipes within 1 1/4” of the edge of studs from drywall screws and nails.
- If adding a new bathroom where no in-floor plumbing has been installed, a 5-pound air test is required for all new plumbing and inspected by the City inspector. Verify if backwater valve is required.
- Vent pipes shall not run horizontal until 6” above the flood level rim of the fixture served.
- Cleanouts must remain accessible.
- 1 1/2” trap arm for sinks may be a maximum of 42” from the vent, only one 90 degree or two 45 degree bends allowed between the vent and drain.
- 2” trap arm for sinks may be a maximum 60” from the vent, only one 90 degree or two 45 degree bends allowed between the vent and drain.
- Toilet vent may be a maximum of 60” from the drain including the fitting and piping below the flange, 135 degree bends allowed between the vent and drain.
- Drilling through engineered lumber, allowed only per manufacturers installation instructions.
- Consult with a building inspector prior to notching and/or boring of floor joists in nominal wood joists.
- Cutting and notching studs:
  - Bearing walls max. 25% of stud width.
  - Non-bearing walls maximum 40% of stud width.
- Bored holes in studs:
  - Bearing walls maximum 40% of width of stud.
  - Non-bearing wall maximum 60% of stud only if doubled stud.
  - No nearer than 5/8” from edge.

### **ELECTRICAL CODE REQUIREMENTS**

- A separate Electrical permit is required for any new electrical work.
- Electrical work shall be conducted by homeowner or licensed and bonded electrical contractor.
- Sealed electrical boxes shall be used in exterior walls where the vapor barrier is penetrated.

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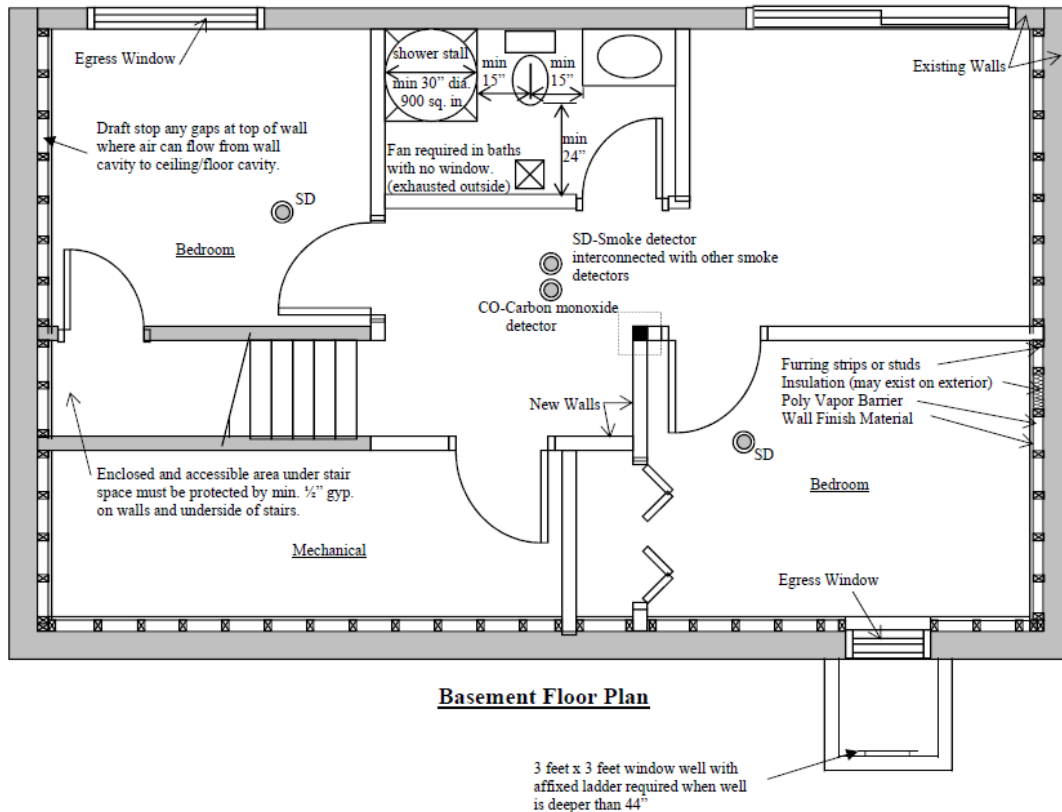
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### SAMPLE FLOOR PLAN



**NOTE:** This handout only outlines General Code Requirements relative to finish basement construction. For specific code requirements, please contact the Building Inspectors at **763-497-9923**. Questions regarding design and cost should be referred to a professional builder or architect.

### **REQUIRED INSPECTIONS:**

- Framing:** To be made after all framing, plumbing and ductwork are in place and the rough electrical has been approved.
- Insulation:** To be made after framing and mechanical have been approved.
- Final:** To be made when work is complete having final approval of any electrical work.

### **GENERAL NOTES:**

1. The stamped "Approved" plan and the Inspection Record Card shall be made available to the inspectors during their inspections. It shall be posted in a prominent location in the area of construction.
2. Separate permits are required when installing electrical wiring. Please contact the State Board of Electricity at 651-284-5064 for information regarding Electrical permits. (Applications are available online at [www.electricity.state.mn.us](http://www.electricity.state.mn.us)).

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