

# Charter Township of Shelby

Timothy Wood  
Building Director

52700 Van Dyke  
Shelby Township, MI 48316-3572

Phone: (586) 731-5969  
Fax: (586) 803-2099  
E-mail: building@shelbytp.org

## OUTLINE PROCEDURES FOR FINISH BASEMENT PERMIT

### PERMIT PROCEDURE

A building permit is required by the OWNER or BUILDER. Submit the information indicated below and allow at least two weeks for plan review and processing. The permit applicant will be contacted when the permit is ready to be picked up. An application fee is required at the time the application is submitted.

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| <b>1) Permit Application</b>                | Complete all applicable sections of application. Missing information will cause delays.  |
| <b>2) Construction Plans<br/>(3 copies)</b> | <ol style="list-style-type: none"><li>1] Provide a <u>floor plan</u> indicating all proposed uses and room dimensions.</li><li>2] The size and location of all openable windows and doors leading to the outside environment.</li><li>3] Indicate beam and duct locations on the floor plan</li><li>4] Indicate the stairway width and location</li><li>5] Location of smoke and carbon monoxide alarms</li><li>6] Location and type of any mechanical ventilation system.</li></ol> |
| <b>3) Section Drawing<br/>(1 copy)</b>      | Draw to scale and clearly indicate the following: <ol style="list-style-type: none"><li>1] Type, size and spacing of framing members</li><li>2] Indicate finish ceiling height to joist and ductwork above.</li><li>3] Describe type and location of any insulation.</li><li>4] Indicate thickness and type of wall, floor and ceiling finishes.</li></ol>   |

### ADDITIONAL REQUIREMENTS

**Separate Permits** are Required for: **Electrical, Heating, A/C, Gas Piping, Plumbing, and Pre-Fabricated Fireplaces.**

**Registration** All residential builders must be registered. All electrical, plumbing, and mechanical contractors must be registered. Property owners must sign a Responsibility Affidavit for homeowner permits.

## **Building Requirements**

The following are excerpts from the 2015 edition of the Michigan Residential Code.  
(See code for full text and requirements)

**R302.7 Under-stair protection.** Enclosed accessible space under stairs shall have walls, under-stair surface and any soffits protected on the enclosed side with ½-inch gypsum board.

**R302.11 Fireblocking.** In combustible construction fireblocking shall be provided to cut off all concealed draft openings (both vertical and horizontal) and to form an effective fire barrier between stories, and between a top story and the roof space.

Fireblocking shall be provided in wood-frame construction in the following locations.

1. In concealed spaces of stud walls and partitions, including furred spaces and parallel rows of studs or staggered studs; as follows:
  - 1.1. Vertically at the ceiling and floor levels.
  - 1.2. Horizontally at intervals not exceeding 10 feet.
2. At all interconnections between concealed vertical and horizontal spaces such as occur at soffits, drop ceilings and cove ceilings.
3. In concealed spaces between stair stringers at the top and bottom of the run. Enclosed spaces under stairs shall comply with Section R302.7.
4. At openings around vents, pipes, ducts, cables and wires at ceiling and floor level, with an approved material to resist the free passage of flame and products of combustion.
5. For the fireblocking of chimneys and fireplaces, see Section R1003.19.
6. Fireblocking of cornices of a two-family dwelling is required at the line of dwelling unit separation.

**R302.11.1 Materials.** Except as provided in Section R302.11, Item 4, fireblocking shall consist of the following materials:

1. 2-inch (51 mm) nominal lumber
2. Two thicknesses of 1-inch nominal lumber with broken lap joints
3. One thickness of 23/32-inch wood structural panels with joints backed by 23/32-inch wood structural panels.
4. One thickness of 3/4-inch particleboard with joints backed by 3/4-inch particleboard
5. 1/2-inch gypsum board
6. 1/4-inch cement-based millboard
7. Batts or blankets of mineral wool or glass fiber or other approved materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation installed as tested in accordance with ASTM E119 or UL 263, for the specific application.

**R302.11.1.1 Batts or blankets of mineral or glass fiber.** Batts or blankets of mineral or glass fiber or other approved non-rigid materials shall be permitted for compliance with the 10 foot horizontal fireblocking in walls constructed using parallel rows of studs or staggered studs.

**R302.11.1.2 Unfaced insulation.** Unfaced fiberglass batt insulation used as fireblocking shall fill the entire cross section of the wall cavity to a minimum height of 16 inches measured vertically. When piping, conduit or similar obstructions are encountered, the insulation shall be packed tightly around the obstruction.

**R302.11.1.3 Loose-fill insulation materials.** Loose-fill insulation material shall not be used as a fire block unless specifically tested in the form and manner intended for use to demonstrate its ability to remain in place and to retard the spread of fire and hot gases.

R302.12 Draftstopping. In combustible construction where there is usable space both above and below the concealed space of a floor/ceiling assembly, draftstops shall be installed so that the area of the concealed space does not exceed 1,000 square feet. Draftstopping shall divide the concealed space into approximately equal areas. Where the assembly is enclosed by a floor membrane above and a ceiling membrane below draftstopping shall be provided in floor/ceiling assemblies under the following circumstances:

1. Ceiling is suspended under the floor framing.
2. Floor framing is constructed of truss-type open-web or perforated members.

R302.12.1 Materials. Draftstopping materials shall not be less than 1/2-inch gypsum board, 3/8-inch wood structural panels or other approved materials adequately supported. Draftstopping shall be installed parallel to the floor framing members unless otherwise approved by the building official. The integrity of all draftstops shall be maintained.

R303.3 Bathroom Ventilation. Bathrooms, water closet compartments and other similar rooms shall be provided with aggregate glazing area in windows of not less than 3 square feet, one-half of which must be openable. Exception: The glazed areas shall not be required where artificial light and a mechanical ventilation system are provided. The minimum ventilation rates shall be 50 cubic feet per minute for intermittent ventilation or 20 cubic feet per minute for continuous ventilation. Ventilation air from the space shall be exhausted directly to the outside.

R305.1 Minimum height. Habitable space, hallways and portions of basements containing these spaces shall have a ceiling height of not less than 7 feet (2134 mm). Bathrooms, toilet rooms and laundry rooms shall have a ceiling height of not less than 6 feet 8 inches.

Exceptions:

1. For rooms with sloped ceilings, the required floor area of the room shall have a ceiling height of not less than 5 feet and not less than 50% of the required floor area shall have a ceiling height of not less than 7 feet.
2. The ceiling height above bathroom and toilet room fixtures shall be such that the fixture is capable of being used for its intended purpose. See the code for full text.
3. Beams, girders, ducts or other obstructions in basements containing habitable space shall be permitted to project within 6 feet 4 inches of the finished floor.

R305.1.1 Basements. Portions of basements that do not contain habitable space or hallways shall have a ceiling height of not less than 6 feet 8 inches.

Exception: At beams, girders, ducts or other obstructions, the ceiling height shall not be less than 6 feet 4 inches from the finished floor.

R310.1 Emergency escape and rescue required. Basements, habitable attics and every sleeping room shall have not less than one operable emergency escape and rescue opening. Where basements contain one or more sleeping rooms, an emergency escape and rescue openings shall be required in each sleeping room. Emergency escape and rescue openings shall open directly into a public way, or to a court that opens to a public way.

R310.1.1 Operational constraints and opening control devices. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys, tools or special knowledge. Window opening control devices complying with ASTM F2090 shall be permitted for use on windows serving as a required emergency escape and rescue opening

R310.2 Emergency escape and rescue openings. Emergency escape and rescue openings shall have minimum dimensions as specified in this section.

R310.2.1 Minimum opening area. Emergency and escape rescue openings shall have a net clear opening of not less than 5.7 square feet. The net clear opening dimensions required by this section shall be obtained by the

normal operation of the emergency escape and rescue opening from the inside. The net clear height opening shall be not less than 24 inches and the net clear width shall be not less than 20 inches.

Exception: Grade floor or below grade openings shall have a net clear opening of not less than 5 square feet.

R310.2.2 Window sill height. Where a window is provided as the emergency escape and rescue opening, it shall have a sill height of not more than 44 inches above the floor; where the sill height is below grade, it shall be provided with a window well in accordance with Section R310.2.3.

R310.2.3 Window wells. The horizontal area of the window well shall be not less than 9 square feet, with a horizontal projection and width of not less than 36 inches. The area of the window well shall allow the emergency escape and rescue opening to be fully opened.

Exception: The ladder or steps required by Section R310.2.3.1 shall be permitted to encroach not more than 6 inches into the required dimensions of the window well.

R310.2.3.1 Ladder and steps. Window wells with a vertical depth greater than 44 inches shall be equipped with a permanently affixed ladder or steps usable with the window in the fully open position. Ladders or steps required by this section shall not be required to comply with Sections R311.7 and R311.8. Ladders or rungs shall have an inside width of not less than 12 inches, shall project not less than 3 inches from the wall and shall be spaced not more than 18 inches on center vertically for the full height of the window well.

R310.2.3.2 Drainage. Window wells shall be designed for proper drainage by connecting to the building's foundation drainage system required by Section R405.1 or by an approved alternative method.

Exception: A drainage system for window wells is not required where the foundation is on well-drained soil or sand-gravel mixture soils in accordance with the United Soil Classification System, Group I Soils.

R310.2.4 Emergency escape and rescue openings under decks and porches. Emergency escape and rescue openings shall be permitted to be installed under decks and porches provided that the location of the deck allows the emergency escape and rescue openings to be fully opened and provides a path not less than 36 inches in height to a yard or court.

R310.3 Emergency escape and rescue doors. Where a door is provided as the required emergency escape and rescue opening, it shall be permitted to be a side-hinged door or a slider. Where the opening is below the adjacent ground elevation, it shall be provided with a bulkhead enclosure.

R310.3.1 Minimum door opening size. The minimum net clear height opening for any door that serves as an emergency and escape rescue opening shall be in accordance with Section R310.2.1.

R310.3.2 Bulkhead enclosures. Bulkhead enclosures shall provide direct access from the basement. The bulkhead enclosure shall provide the minimum net clear opening equal to the door in the fully open position.

R310.3.2.1 Drainage. Bulkhead enclosures shall be designed for proper drainage by connecting to the building's foundation drainage system or by an approved alternative method.

Exception: A drainage system for bulkhead enclosures is not required where the foundation is on well-drained soil or sand-gravel mixture soils in accordance with the United Soil Classification System, Group I Soils.

R310.4 Bars, grilles, covers and screens. Bars, grilles, covers, screens or similar devices are permitted to be placed over emergency escape and rescue openings, bulkhead enclosures, or window wells that serve such openings, provided that the minimum net clear opening size complies with Sections R310.1.1 to R310.2.3, and such devices shall be releasable or removable from the inside without the use of a key, tool, special knowledge or force greater than that required for the normal operation of the escape and rescue opening.

R310.5 Dwelling additions. Where dwelling additions occur that contain sleeping rooms, an emergency escape and rescue opening shall be provided in each new sleeping room. Where dwelling additions occur that have basements, an emergency escape and rescue opening shall be provided in the new basement.

Exceptions:

1. An emergency escape and rescue opening is not required in a new basement that contains a sleeping room with an emergency escape and rescue opening.
2. An emergency escape and rescue opening is not required in a new basement where there is an emergency escape and rescue opening in an existing basement that is accessible from the new basement.

R310.6 Alterations or repairs of existing basements. An emergency escape and rescue opening is not required where existing basements undergo alterations or repairs.

Exception: New sleeping rooms created in an existing basement shall be provided with emergency escape and rescue openings in accordance with Section R310.1.

R311.7 Stairways. If the existing stairway is being modified in any way (i.e. finished ceiling height changing headroom clearance, etc.), please see the code for extensive code requirements pertaining to stairway construction.

### R 314 Smoke Alarms

R314.1.1 Listings. Smoke alarms shall be listed in accordance with UL 217. Combination smoke carbon monoxide alarms shall be listed in accordance with UL 217 and UL 2034.

R314.2.2 Smoke Alarms - Alterations, repairs and additions. 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 alarms located as required for new dwellings.

R314.3 Smoke Alarms - Location. Smoke alarms shall be installed in the following locations:

1. In each sleeping room.
2. Outside each separate sleeping area in the immediate vicinity of the bedrooms.
3. On each additional story of the dwelling, including basements and habitable attics but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

R314.4 Interconnection. Where more than 1 smoke alarm is required to be installed within an individual dwelling unit in accordance with Section R314.3, the alarm devices shall be interconnected in such a manner that the actuation of 1 alarm will activate all of the alarms in the individual unit. Physical interconnection of smoke alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of 1 alarm.

Exception: Interconnection of smoke alarms in existing areas shall not be required.

R314.5 Combination alarms. Combination smoke and carbon monoxide alarms shall be permitted to be used in lieu of smoke alarms.

R314.6 Power source. Smoke alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and, where primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection.

Exceptions:

1. Smoke alarms shall be permitted to be battery operated where installed in buildings without commercial power.

2. Smoke alarms installed in accordance with Section R314.2.2 shall be permitted to be battery powered.

R315.1 General. Carbon monoxide alarms shall comply with Section R315.

R315.1.1 Listings. Carbon monoxide alarms shall be listed in accordance with UL 2034. Combination carbon monoxide and smoke alarms shall be listed in accordance with UL 2034 and UL 217.

R315.2 Where required. Carbon monoxide alarms shall be provided in accordance with Sections R315.2.1 and R315.2.2.

R315.2.1 New construction. For new construction, carbon monoxide alarms shall be provided in dwelling units where either or both of the following conditions exist.

1. The dwelling unit contains a fuel-fired appliance.
2. The dwelling unit has an attached garage with an opening that communicates with the dwelling unit.

R315.2.2 Alterations, repairs and additions. Where alterations, repairs or additions requiring a permit occur, or where one or more sleeping rooms are added or created in existing dwellings, the individual dwelling unit shall be equipped with carbon monoxide alarms located as required for new dwellings.

R315.3 (IRC) Location. Carbon monoxide alarms in dwelling units shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms. Where a fuel burning appliance is located within a bedroom or its attached bathroom, a carbon monoxide alarm shall be installed within the bedroom.

R315.4 Combination alarms. Combination carbon monoxide and smoke alarms shall be permitted to be used in lieu of carbon monoxide alarms.

R315.5 Power source. Carbon monoxide alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and, where primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection.

Exceptions:

1. Carbon monoxide alarms shall be permitted to be battery operated where installed in buildings without commercial power.
2. Carbon monoxide alarms installed in accordance with Section R315.2.2 shall be permitted to be battery powered.

R317.1 Protection of wood. The following are required to be naturally durable wood or wood that is pressure treated in accordance with AWPA U1 for the species, product, preservative and end use:  
Sills and sleepers on a concrete or masonry slab that is in direct contact with the ground unless separated from such slab by an impervious moisture barrier.

Wood furring strips or other wood framing members attached directly to the interior of a masonry walls or concrete walls below grade except where an approved vapor barrier is applied between the wall and the furring strips or framing members.

R406.2 Concrete and masonry foundation waterproofing. In areas where a high water table or other severe soil-water conditions are known to exist, exterior foundation walls that retain earth and enclose interior spaces and floors below *grade* shall be waterproofed from the higher of (a) the top of the footing or (b) 6 inches (152 mm) below the top of the basement floor, to the finished *grade*.

R601.3 Vapor retarders. Class I or II vapor retarders shall be provided on the interior side of frame walls.

Exceptions:

1. As permitted in Table R702.7.1.
2. Class III or no vapor retarder shall be permitted on the interior side of below grade wall assemblies. Class I or II vapor retarders shall be permitted on the interior side of the wall assembly when no air permeable insulation is installed in the below grade wall assemblies.
3. Construction where moisture or its freezing will not damage the materials.

Michigan Uniform Energy Code (MEUC) Requirements. A minimum of 75 percent of the lamps installed in permanently installed lighting fixtures shall be high-efficacy lamps.

### **Inspections Required**

Rough electrical, rough plumbing, rough mechanical, rough building, insulation, final electrical, final plumbing, final mechanical and final building.

### **Special Notice Regarding Deed Restrictions and Easements:**

Please be advised that construction activities that are permitted by the Building Department may be further regulated by Subdivision/Condominium Restrictions or Easements applicable to the subject property. In some cases, activities permitted by the Building Department may be prohibited by private restrictions or easements.

You are strongly advised to check that all improvements are in conformance with any applicable private restrictions and easements. Further, you should obtain approval of the appropriate entity prior to construction.

To obtain information on recorded subdivision/condominium restrictions and easements, the Macomb County Register of Deeds provides the most complete property records and can be reached at (586) 469-7953. In many cases, the Township Clerk's office has copies of restrictions that may apply.

The authorization of a permit by the Building Department shall not be construed as authority to violate any private restrictions or easements.

FINISHED GRADE

FLOOR JOISTS

CEILING SPACE

DRAFTSTOP ABOVE CEILING  
IF MORE THAN 1000 S.F.

FIREBLOCKING AT TOP OF WALL  
AND HORIZONTAL INTERVALS NOT  
EXCEEDING 10'

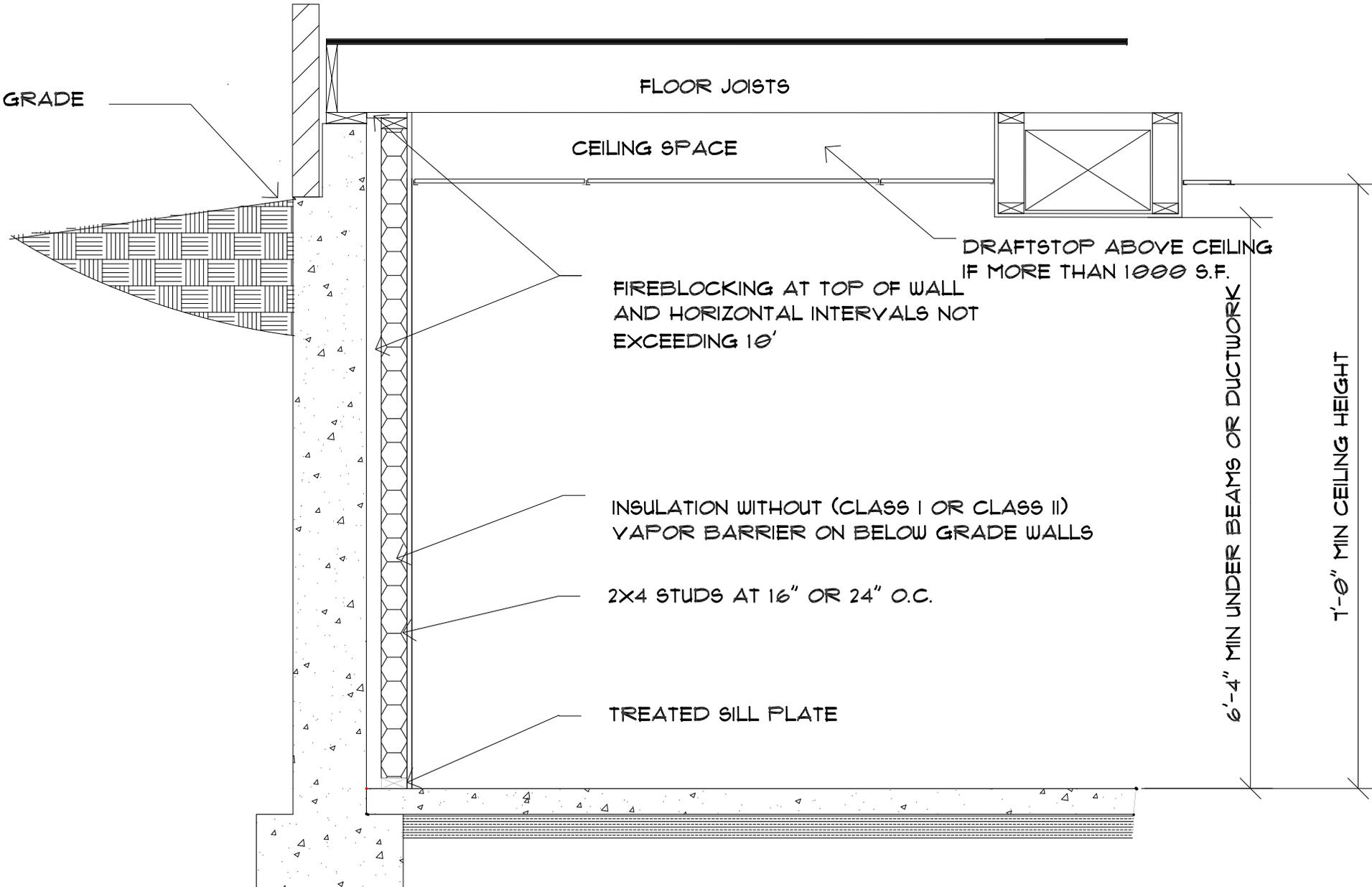
INSULATION WITHOUT (CLASS I OR CLASS II)  
VAPOR BARRIER ON BELOW GRADE WALLS

2X4 STUDS AT 16" OR 24" O.C.

TREATED SILL PLATE

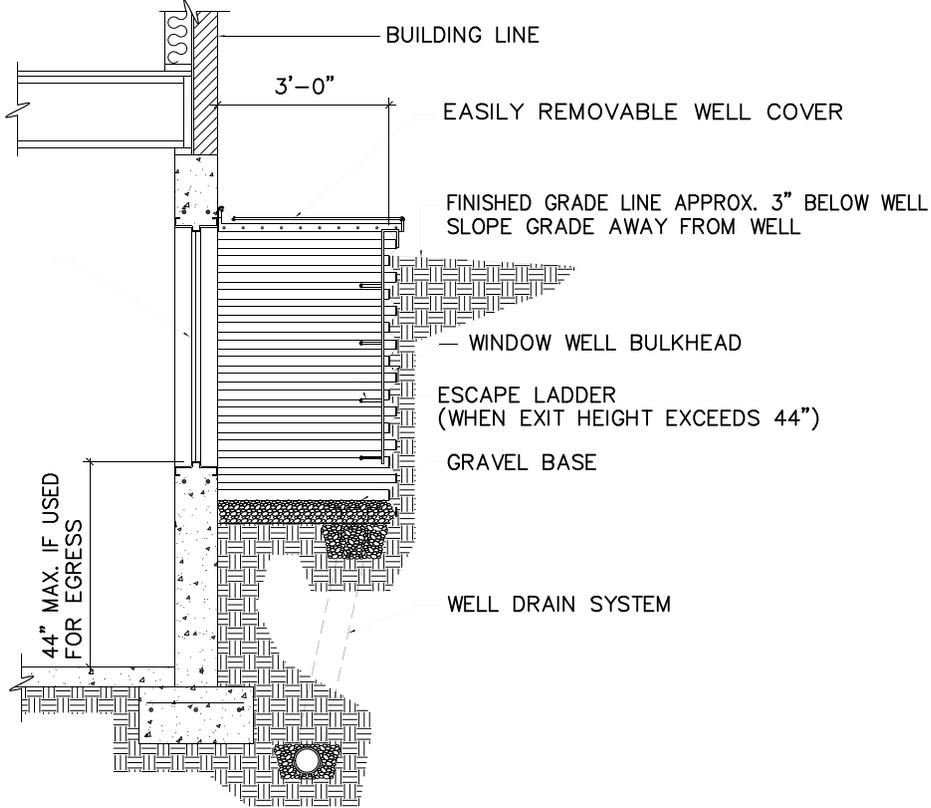
6'-4" MIN UNDER BEAMS OR DUCTWORK

1'-0" MIN CEILING HEIGHT

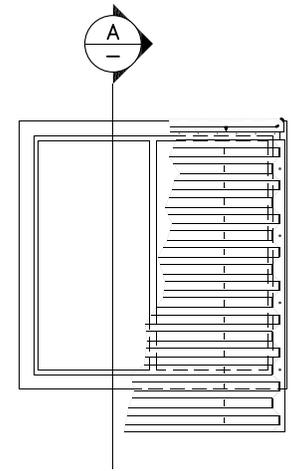


TYPICAL FINISHED BASEMENT WALL SECTION

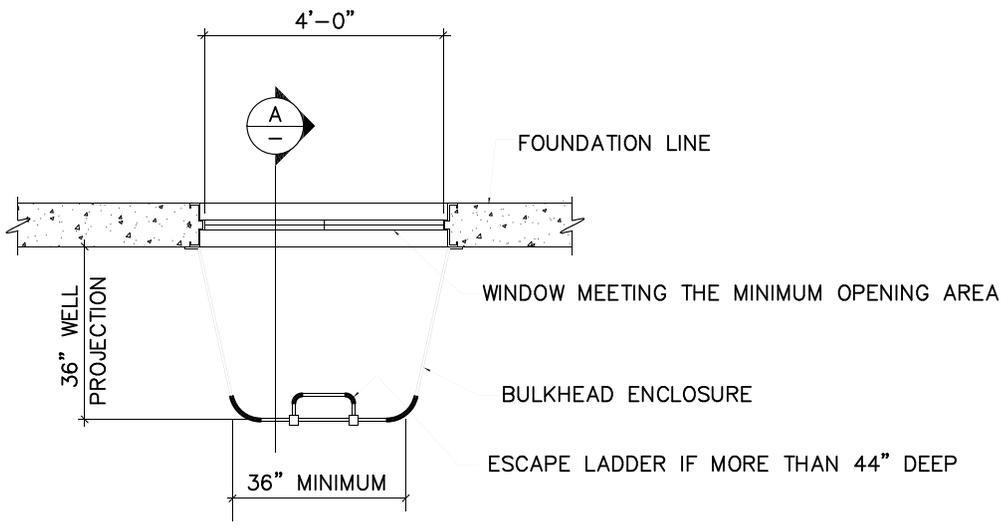
WINDOW MEETING THE  
MINIMUM OPENING AREA



(A) WALL SECTION THRU. WINDOW WELL



(A) WINDOW ELEVATION WITH WELL



(A) PLAN VIEW WINDOW WELL  
36" PROJECTION REQUIRED FOR EGRESS