

**CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA – Town of Hornellsville**

**SUBJECT TO DAMAGE FROM:**

GROUND WIND SEISMIC				Frost			WINTER ICE SHIELD		
SNOW	Speed	DESIGN	Weathering	line	Termite	Decay	DESIGN UNDERLAYMENT	FLOOD	
LOAD	(mph)	CATEGORY	Severe	depth	Slight	Slight	TEMP REQUIRED	HAZARD	
45#	90	C		48"			1 degree	36"	Slight

- Habitable rooms shall have a ceiling height of not less than 7 feet 6 inches. All habitable rooms shall be provided with aggregate glazing area of not less than 8 percent of the floor area of such rooms. Natural ventilation shall be through windows, doors, louvers or other approved openings to the outdoor air. Such openings shall be provided with ready access or shall otherwise be readily controllable by the building occupants. The minimum opening area to the outdoors shall be 4 percent of the floor area being ventilated.
- Emergency escape and rescue required. Basements with habitable space and every sleeping room shall have at least one opening emergency escape and rescue window or exterior door opening for emergency escape and rescue. Where openings are provided as a means of escape and rescue they shall have a sill height of not more than 44 inches above the floor. All emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet  
EXCEPTION: Grade floor openings shall have a minimum net clear opening of 5 square feet. The net clear opening dimensions required by this section shall be obtained by the normal operation of the window or door opening from the inside. Escape and rescue window openings with a finished sill height below the adjacent ground elevation shall be provided with the horizontal dimensions of the window well shall provide a minimum net clear area of 9 square feet with a minimum horizontal projection and width of 36 inches.
- Not less than one exit door conforming to this chapter shall be provided from each dwelling unit. The required exit door shall provide for direct access from the habitable portions of the dwelling to the exterior without requiring travel through a garage. All egress doors shall be readily openable from the side from which egress is to be made without the use of a key or special knowledge or effort. The required exit door shall be a side-hinged door not less than 3 feet in width and 6 feet,8 inches in height.
- Handrails having minimum and maximum heights of 34 inches and 38 inches. Handrails adjacent to a wall shall have a space of not less than 1.5 inches between the wall and the handrail. Porches, balconies or raised floor surfaces located more than 30 inches above the floor or grade below shall have guards not less than 36 inches in height. Required guards on open sides of stairways, raised floor areas, balconies and porches shall have intermediate rails or ornamental closures that do not allow passage of a sphere 4 inches in diameter.

**SIMPLIFIED PRESCRIPTIVE BUILDING ENVELOPE THERMAL COMPONENT CRITERIA  
MINIMUM REQUIRED THERMAL PERFORMANCE (U-FACTOR AND R-VALUE)**

MAXIMUM // HEATING DEGREE DAYS	MINIMUM INSULATION REQUIREMENTS							
	Glazing	Ceilings	Walls	Floors	Basement Walls	Slab perimeter	Crawl Space	Walls
6,000-6,499	U-Factor	R-value	R-value	R-value	R-value	R-value and depth	4 ft	R-value
	0.35	R-38	R-21	R-21	R-11	R-9		R-21

**FOUNDATION INSULATION DEPTH – Minimum R-9**

Degree Days	Depth Below Grade
6001-7000	48"

- Caulking, sealants and gaskets. All joints, seams, penetrations; site-built windows, doors, and skylights; openings between window and door assemblies and their respective jambs and framing; and other sources of air leakage through the building thermal envelope shall be sealed with caulk, gaskets, weather-stripping, wraps or otherwise sealant to limit uncontrolled air movement. Fiberglass insulation is insufficient!

Gas-fired or oil- fired furnace < 225,000 Btu/h		MINIMUM	AFUE 78%
Gas-fired or oil-fired steam and hot- boilers < 300,000 Btu/h		“	AFUE 78%
MINIMUM HVAC PIPING		INSULATION THICKNESS	
Low pressure / low temperature	201-250	1.5	

- All ducts shall be sealed. Joints and seams. Joints of duct systems shall be made substantially airtight by means of tapes, mastics or gaskets. Duct connections to flanges of air distribution system equipment or sheet metal fittings shall be mechanically fastened. Crimp joints for round ducts shall have a contact lap of at least 1.5 inches and shall be mechanically fastened by means of at least three sheet metal screws or rivets equally spaced around the joint.
- Support. Metal ducts shall be supported by 0.5-inch wide 18-gage metal straps or 12-gage galvanized wire at intervals not exceeding 10 feet. Nonmetallic ducts shall be supported in accordance with the manufacturer's installation instructions.
- The installation of electrical systems, equipment and components indoors and outdoors that are within the scope of this code, including services, power distribution systems, fixtures, appliances, devices and appurtenances. Services within the scope of this code shall be limited to 120/240-volt, 0-to 400-ampere, single-phase systems and is based on the 1999 National Electrical Code (NEC). All new electrical work must be inspected by an approved electrical inspector.
- Single-and multiple-station smoke alarms shall be installed in the following locations:
  1. In each sleeping room.
  2. Outside of each separate sleeping area in the immediate vicinity of the bedrooms.
  3. On each additional story of the dwelling, including basements and cellars 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. When more than one smoke alarm is required to be installed within an individual dwelling unit the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual unit. The alarm shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed.
- The water-distribution and drainage system of any building or premises where plumbing fixtures are installed shall be connected to an individual water supply or individual (private) sewage-disposal system, or both.
- Load-bearing dimension lumber for studs, plates and headers shall be identified by a grade mark of a lumber grading or inspection agency. MAXIMUM STUD SPACING – 2 X 4 = 16” 2 X 6 = 24”
- RAFTER SPANS FOR COMMON LUMBER SPECIES Ground snow load=50 psf, or less
 

Rafter Spacing		Maximum rafter spans			
16” Spruce-pine-fir #2 (SPF#2)	2x6 – 9’9”	2x8 – 12’4”	2x10 – 15’1”	2x12- 17’6”	
24” Spruce-pine-fir #2 (SPF#2)	2x6 – 7’11”	2x8 – 10’1”	2x10 – 12’4”	2x12- 14’3”	

 OR use engineered trusses – building inspector MUST receive copy of truss certification!
- Enclosed attics and enclosed rafter spaces shall have cross ventilation; the total net free ventilating area shall not be less than 1sq. ft of vent to every 150 sq. ft. of the area of the space ventilated.
- Exterior walls shall provide the building with a weather-resistant exterior wall envelope.
- Foundation concrete or cement walls shall be a minimum of 8” thick.
- Structure must be anchored to foundation through the use of anchor bolts or other attachments