Porches, 3-Season Porches, Additions, & Sunrooms

This checklist is intended to help identify requirements for porches, 3-season porches, additions and sunrooms. Please note the following:

- Porches, 3-season porches, additions and sunrooms must meet various requirements found in the 2020 MN Residential (MRC), Energy (MEC), and Mechanical & Fuel Gas Codes (MMFGC), and the 2020 National Electrical Code (NEC).
- The MEC R202 defines:
  - Addition: an extension or increase in the conditioned space floor area or height of a building or structure
  - Conditioned space: an area or room within a building being heated or cooled, containing uninsulated ducts, or with a fixed opening directly into an adjacent conditioned space
  - Fenestration: skylights, roof windows, vertical windows (fixed or moveable), opaque doors, glazed doors, glazed block and combination or opaque/glazed doors. Includes products with glass and non-glass glazing material.
  - Sunroom: a one-story structure attached to a dwelling with a glazing area in excess of 40% of the gross area of the structure's exterior walls and roof
- MEC 1322.01 Subp 4B defines:
  - Low energy buildings or portions of, separated from the remained of the building by the building's thermal envelop assembly complying with:
    - (1) those with a peak design rate of energy usage < 3.4 Btu/h/sf or 1.0 watts/sf of floor area for space conditioning purposes; and
    - (2) those that do not contain conditioned space

Porches

Porches are considered non-habitable and unconditioned. They must be separated from the remainder of the building by the building's thermal envelope assemblies so are exempt from provisions of MEC 1322.0100 Subp. 4B and do not contain conditioned space per MEC Subp.4B(2), so the energy code is not applicable. This includes porches which remain open to the elements or include insect screens without any type of protective film.

- **Open or enclosed with insect screen:**
  - □ Thermally isolated from the dwelling , no insulation required
  - □ Structural:
    - Must be designed to support all gravity loads and wind loads per MRC R301 and Table 301.2(1)
      - Horizontal wind pressures include items such as the roof as a horizontal diaphragm, shear walls, wall bracing and anchorage to foundations
    - Provide wall bracing per MRC R602.10 or R301.1
    - Footings must be frost protected per MRC R403.1.4 and MRC 1303.1600 Subp. 1
  - □ Framing:
    - Wood columns must be naturally durable or treated per MRC R317.1.4 and R407
    - Wood joist and structural frames require protection per MRC R703.4
    - Wood wall framing requires protection per MRC R317, R609, and R703
      - Fenestrations and cladding designed and tested to shed water may be used with untreated wall framing per R317, R609, and R703
  - □ Finishes:

- All approved decking can be used for use for the floor
- Vinyl siding may be used on the existing house wall(s)

□ Electrical:
- Receptacles are required per the 2020 NEC/NFPA 70 section 314.15 and 314.27(B)
  - Devices in walls must be rated for wet locations
  - Devices in floors must be rated for wet locations
- Exterior stairway illumination is required per MRC R303.8

□ Heating/Cooling:
- Provided by a separate temperature control or system and thermally isolated from the primary structure
- Decorative fossil fuel and electrical heating and cooling appliances, and wood burning appliances are allowed

□ See 3-Season Porches and Additions for additional requirements if the intent is to eventually enclose the space

3-Season Porches

□ 3-season porches are considered non-habitable and unconditioned. They must be separated from the remainder of the building by the building's thermal envelope assemblies so are exempt from the building thermal envelope provisions of the energy code REC 1322.0100 Subp. 4B and do not contain conditioned space per REC Subp.4B(2) so the energy code is not applicable. This includes porches which are screened with protective film.

□ Note: If enclosed with glazing, this structure must be constructed as an addition, or if it contains more than 40% glazing can rather meet the requirements for sunrooms

➢ **Screened with protective film:**

□ No energy requirements, but if insulated, must meet requirements per REC Table R402.1 for walls, ceiling/roofs, floors, and fenestrations

□ Structural:
- Must be designed to support all gravity loads and wind loads per MRC R301 and Table 301.2(1)
  - Horizontal wind pressures include items such as the roof as a horizontal diaphragm, shear walls, wall bracing and anchorage to foundations
- Provide wall bracing per MRC R602.10 or R301.1
- Footings must be frost protected per MRC R403.1.4 and MRC 1303.1600 Subp. 1

□ Framing:
- Wood columns must be naturally durable or treated per MRC R317.1.4 and R407
- Wood joist and structural frames require protection per MRC R703.4
- Wood wall framing requires protection per MRC R317, R609, and R703
  - Fenestrations and cladding designed and tested to shed water may be used with untreated wall framing per R317, R609, and R703

□ Finishes:
- Composite decking and vinyl siding on the house wall must be replaced with materials that comply with interior finishes per section R302.9

□ Electrical:
- Receptacles are required per the 2020 NEC/NFPA 70 section 314.15 and 314.27(B)
  - Devices in walls must be rated for wet locations
  - Devices in floors must be rated for wet locations

- Exterior stairway illumination is required per MRC R303.8

□ Heating/Cooling:
- Provided by a separate temperature control or system and thermally isolated from the primary structure
- Decorative fossil fuel and electrical heating and cooling appliances, and wood burning appliances are allowed

□ See Additions for additional requirements if the intent is to eventually enclose the space

Additions

➢ Additions are habitable and conditioned spaces. They have enclosed walls, are designed to be heated and/or cooled and are open to the remainder of the building. Additions are not exempt from the building thermal envelope provisions, so the energy code is applicable. See MEC Section R402 and Table R402.1.1.

□ Roof:
- Enclosed attics and rafter spaces must be ventilated
- Ice barrier is required

□ Structural:
- Must be designed to support all gravity loads and wind loads per MRC R301 and Table 301.2(1)
  - Horizontal wind pressures include items such as the roof as a horizontal diaphragm, shear walls, wall bracing and anchorage to foundations
- Provide wall bracing per MRC R602.10 or R301.1
- Footings must be frost protected per MRC R403.1.4, MRC 1303.1600 Subp. 1

□ Framing:
- All floor framing and supports (walls, posts, beams) shall comply with MRC section R501.1 for floors and R601.1 for wall construction

□ Fenestrations shall comply with the building and energy codes for air infiltration resistance, water penetration and thermal performance. Must meet requirements in:
- REC Table R402.1.1
- MRC R308 for safety glazing
- MRC R312.2 for fall protection
- MRC R609 for windows and doors

□ Finishes:
- Interior finishes must meet MRC sections R702 and R302.9
- Exterior coverings must meet MRC section R703 and products must meet manufacturer's installation instructions

□ Electrical:
- Receptacles are required per the 2020 NEC/NFPA 70 section 314 and 210.50
  - Devices in walls must be rated for dry locations
  - Devices in floors must be rated for dry locations
- Exterior stairway illumination is required per MRC R303.8

□ Heating/Cooling:
- Heating and cooling systems of all structures are to be designed and installed for efficient utilization of energy per the Energy Code as directed by MFGC Subp. 301.2
- Decorative fossil fuel and electrical heating and cooling appliances, and wood burning appliances are allowed

Sunrooms

Sunrooms must comply with AAMA/NPEA/NSA 2100-12 per MRC R301.2.1.1.1. They may be uninhabitable and unconditioned spaces or habitable and conditioned spaces.

- **Uninhabitable and unconditioned sunrooms**
  - □ Outside the building's thermal envelope
  - □ Roof:
    - Enclosed attics and rafter spaces must be ventilated
    - Ice barrier is required
  - □ Structural:
    - Component and cladding pressures shall be used for the design of elements that do not qualify as main wind force-resisting systems. Main wind force resisting system pressures shall be used for the design of elements assigned to provide support and stability for the overall sunroom per MRC R301.2.1.1.1
    - Must be designed to support all gravity loads and wind loads per MRC R301 and Table 301.2(1)
      - Horizontal wind pressures include items such as the roof as a horizontal diaphragm, shear walls, wall bracing and anchorage to foundations
    - Provide wall bracing per MRC R602.10 or R301.1
    - Footings must be frost protected per MRC R403.1.4 and MRC 1303.1600 Subp. 1
  - □ Framing:
    - Wood columns must be naturally durable or treated per MRC R317.1.4 and R407
    - Wood joist and structural frames require protection per MRC R703.4
    - Wood wall framing requires protection per MRC R317, R609, and R703
      - Fenestrations and cladding designed and tested to shed water may be used with untreated wall framing per R317, R609, and R703
  - □ Fenestrations must comply with:
    - AAMA/WDMA/CSA 101/I.S.2/A440
    - AAMA /NPEA/NSA 2100-12 Section 5.2.4
    - MRC R308 for safety glazing
    - MRC R312.2 for fall protection
    - MRC R609 for windows and doors
  - □ Finishes:
    - Interior finishes must meet MRC sections R702 and R302.9
    - Exterior coverings must meet MRC section R703 and products must meet manufacturer's installation instructions
  - □ Electrical:
    - Receptacles are required per the 2020 NEC/NFPA 70 section 314.15 and 314.27(B)
      - Devices in walls must be rated for wet locations
      - Devices in floors must be rated for wet locations when floors are open
    - Exterior stairway illumination is required per MRC R303.8
  - □ Heating/Cooling:
    - Provided by a separate temperature control or system and is thermally isolated from the primary structure
    - Decorative fossil fuel and electrical heating and cooling appliances, and wood burning appliances are allowed
- **Habitable and conditioned sunrooms**
  - □ All sunrooms enclosing conditioned space shall meet the insulation requirements per MEC R402.2.12
  - □ Roof:

- Enclosed attics and rafter spaces must be ventilated
- Ice barrier is required

□ Structural:
- Component and cladding pressures shall be used for the design of elements that do not qualify as main wind force-resisting systems. Main wind force resisting system pressures shall be used for the design of elements assigned to provide support and stability for the overall sunroom per MRC R301.2.1.1.1
- Must be designed to support all gravity loads and wind loads per MRC R301 and Table 301.2(1)
  - Horizontal wind pressures include items such as the roof as a horizontal diaphragm, shear walls, wall bracing and anchorage to foundations
- Provide wall bracing per MRC R602.10 or R301.1
- Footings must be frost protected per MRC R403.1.4 and MRC 1303.1600 Subp. 1

□ Framing:
- Wood columns must be naturally durable or treated per MRC R317.1.4 and R407
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- Wood wall framing requires protection per MRC R317, R609, and R703
  - Fenestrations and cladding designed and tested to shed water may be used with untreated wall framing per R317, R609, and R703

□ Fenestrations must comply with:
- AAMA/WDMA/CSA 101/I.S.2/A440
- AAMA /NPEA/NSA 2100-12 Section 5.2.4
- MRC R308 for safety glazing
- MRC R312.2 for fall protection
- MRC R609 for windows and doors
- R402.3.5 for fenestration U-factor requirements

□ Finishes:
- Interior finishes must meet MRC sections R702 and R302.9
- Exterior coverings must meet MRC section R703 and products must meet manufacturer's installation instructions

□ Electrical:
- Receptacles are required per the 2020 NEC/NFPA 70 section 314 and 210.50
  - Devices in walls must be rated for dry locations
  - Devices in floors must be rated for dry locations
- Exterior stairway illumination is required per MRC R303.8

□ Heating and/or cooling
- Heating and cooling systems of all structures are to be designed and installed for efficient utilization of energy per the Energy Code as directed by MFGC Subp. 301.2
- Decorative fossil fuel and electrical heating and cooling appliances, and wood burning appliances are allowed