



RESIDENTIAL ELECTRICAL UPGRADES REQUIREMENTS

GENERAL INFORMATION

- All new dwellings shall comply with the 2020 National Electrical Code (NEC) and the City Electrical Ordinance.
- Dwellings being remodeled shall be wired to comply with the currently adopted National Electrical Code and the City Electrical Ordinance. If a financial hardship exists, a waiver may be signed giving the owner up to one (1) year to complete the wiring.
- Dwellings moved to new locations shall meet the update provisions.
- It shall be the duty of the electrical contractor or his agent to inform the owner of a residence of these minimum requirements.

In accordance with Section 26-407(g), which reads as follows:

"Whenever service entrances are altered or upgraded, residential structures shall be updated throughout to the requirements consistent with the electrical code in accordance with the City of Des Moines Electrical Residential Update Requirements, as amended from time to time."

UPGRADED ELECTRICAL SERVICES SHALL ADDRESS THE FOLLOWING:

ELECTRICAL SERVICE EQUIPMENT

1. Services for one and two-family dwellings shall have emergency disconnects installed outdoors in accordance with NEC article
2. Panelboards shall be replaced if they are not capable of accepting new technology breakers such as GFCI and AFCI circuit breakers
3. Surge protection shall be installed when service equipment is replaced in accordance with NEC article
4. Service entrance shall be based on load calculations, 100 Amp minimum.
5. Service entrance conductors shall be installed in metal raceways on and in buildings and other structures.
6. Sch. 40 PVC pipe allowed for underground service entrances if not subject to physical damage.
7. Conduit shall be plugged with duct seal or other approved material where it enters the building.
8. Adequate lighting shall be required in the area of the panelboard.

GENERAL WIRING

1. Arc fault protection shall be installed on all replacement receptacles and circuit extensions as required by the current NEC
2. When there is a demonstrated need, the electrical inspector shall retain the authority to request additional installations or alterations to achieve a safe electrical installation

KITCHEN

1. Need minimum of two (2) 20 ampere appliance circuits
2. GFCI protection and grounding needed for all counter top receptacles.
3. Built in dishwashers and microwaves shall have separate 15 or 20 ampere circuit.
4. All appliances and receptacles shall be grounded.
5. Switches within 6 feet of the sink, and lights above sinks shall be grounded
6. A minimum of two (2) receptacle outlets shall be available in addition to others that may be inaccessible





BATHROOM

1. Ground light fixture if located above basin.
2. GFCI protect and ground new and existing receptacle outlets.
3. Newly installed bathroom receptacles shall be supplied by a separate 20 ampere branch circuit.
4. No receptacle required if one had never been installed.

LAUNDRY

1. One grounded separate 20 ampere circuit required.
2. Receptacle shall be located within 6 feet of water faucets.
3. GFCI protect and ground new and existing 120V receptacle outlets.

BEDROOMS, LIVING ROOM, DINING ROOMS OR OTHER HABITABLE ROOMS

1. A minimum of two (2) receptacle outlets, preferably on opposite walls are required or no more than 20 feet between them.
2. All existing receptacles, other than where specifically required, may be the two wire type receptacles.
3. All new receptacles added shall be of the grounding type. Where a means does not exist to ground a receptacle, it shall be GFCI protected
4. A switched lighting outlet shall be provided either by means of a wall switch or pull chain.
5. Tamper- Resistant receptacles shall be provided where replacements are made as required by code.

BASEMENT

1. Correct any deficient wiring.
2. When conduit is used it shall be EMT.
3. Romex and flexible metal raceway type wiring is allowed only when installed in a workmanlike manner, If Romex is drilled through joists it shall be physically protected by being located next to a wall or beam.
4. All new receptacles installed in basements shall be GFCI protected.
5. All existing receptacles having grounding contacts shall have those contacts effectively grounded.
6. GFCI protected receptacles shall be provided where replacements are made at receptacle outlets that are required to be so protected by the NEC.

ATTIC

1. Correct any deficient wiring.
2. If used for storage a light shall be required.
3. Romex type wiring may be allowed if it is not subject to physical damage.

OUTSIDE RECEPTACLES, OUTLETS AND LIGHTS

1. GFCI and ground all new and existing outside receptacle outlets.
2. All new and existing outside house and garage lighting fixtures shall be installed to a box that is approved for the purpose.

FURNACES and AIR CONDITIONING UNITS

1. A furnace shall have a separate 15 or 20 ampere circuit.
2. A switch shall be provided at the furnace unless the panelboard is within sight.
3. All AC units shall have outside disconnects.
4. The overcurrent protection shall be matched to the AC unit listed rating.

GARAGES

1. A disconnect located in the garage is required.
2. EMT conduit is required if wiring is not covered.
3. Romex wiring is allowed if covered by gypsum board, paneling, pegboard or other similar material.
4. GFCI protection is required on all receptacle outlets

Contact our Electrical Inspections staff with questions at 515-283-4925

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