



2021 CODE ADOPTION

INTRODUCTION

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**COVID-19
UPDATE
EFFECTIVE
4/30/2021**

All employees at City Hall are not required to wear face coverings but are encouraged to wear face coverings if they have any concerns.

All visitors at City Hall are not required to wear face coverings.

Face coverings may include homemade masks, scarfs, bandanas, or a handkerchief.

PREVIOUS CODE CHANGE MEETING

International Fuel Gas
Code (IFGC)

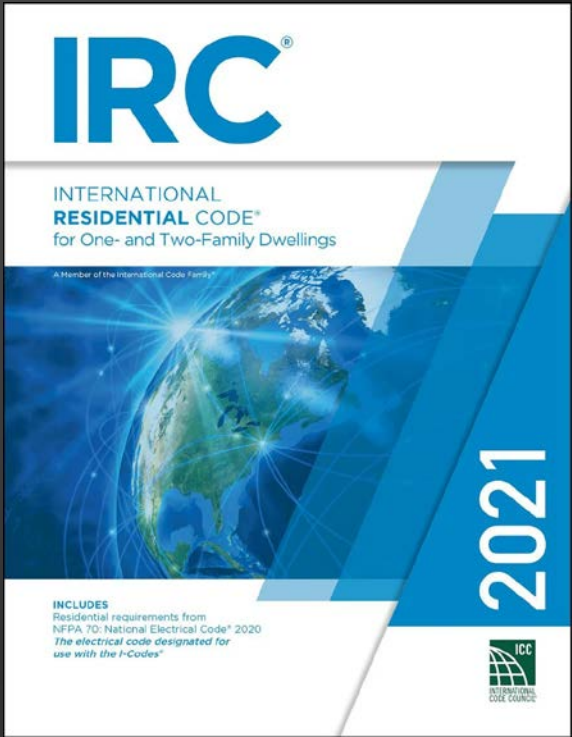
International Plumbing
Code (IPC)

International
Mechanical Code
(IMC)

International Building
Code (IBC)

International
Residential Code (IRC)
(Changes from 2015-
2018 and City
amendments)

International Energy
Conservation Code
(IECC) (Changes from
the 2015-2018 and City
amendments)



2021 IRC

- **301.1.4 Intermodal shipping containers.**

Intermodal shipping containers that are repurposed for use as a building or structures, shall be designed in accordance with the structural provisions in section 3115 of the International Building Code.



2021 IRC

- R302.3 Two-family dwelling

The prescribed fire-resistance rated separation between two dwelling units in a single building is not affected by the presence of a lot line.

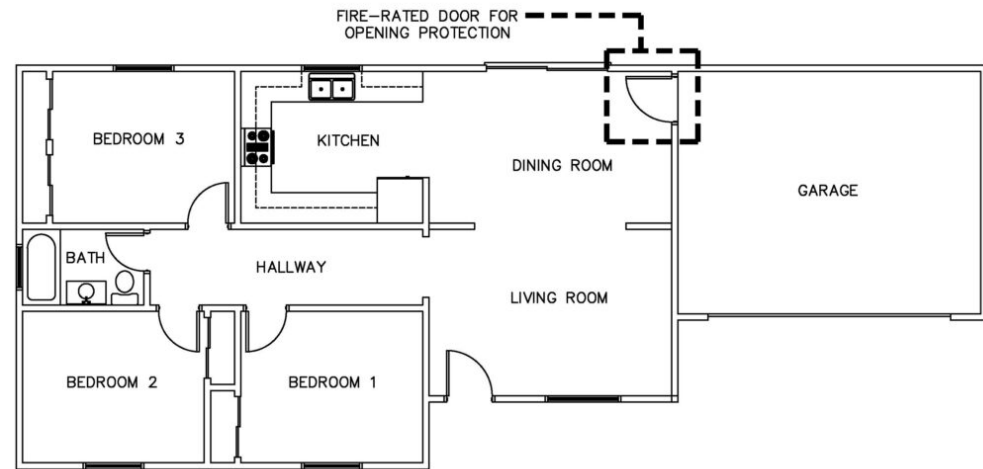
(please note that this does not negate any zoning requirements or their build lines or setbacks)



2021 IRC

- R302.5 Dwelling-garage opening and penetrations.

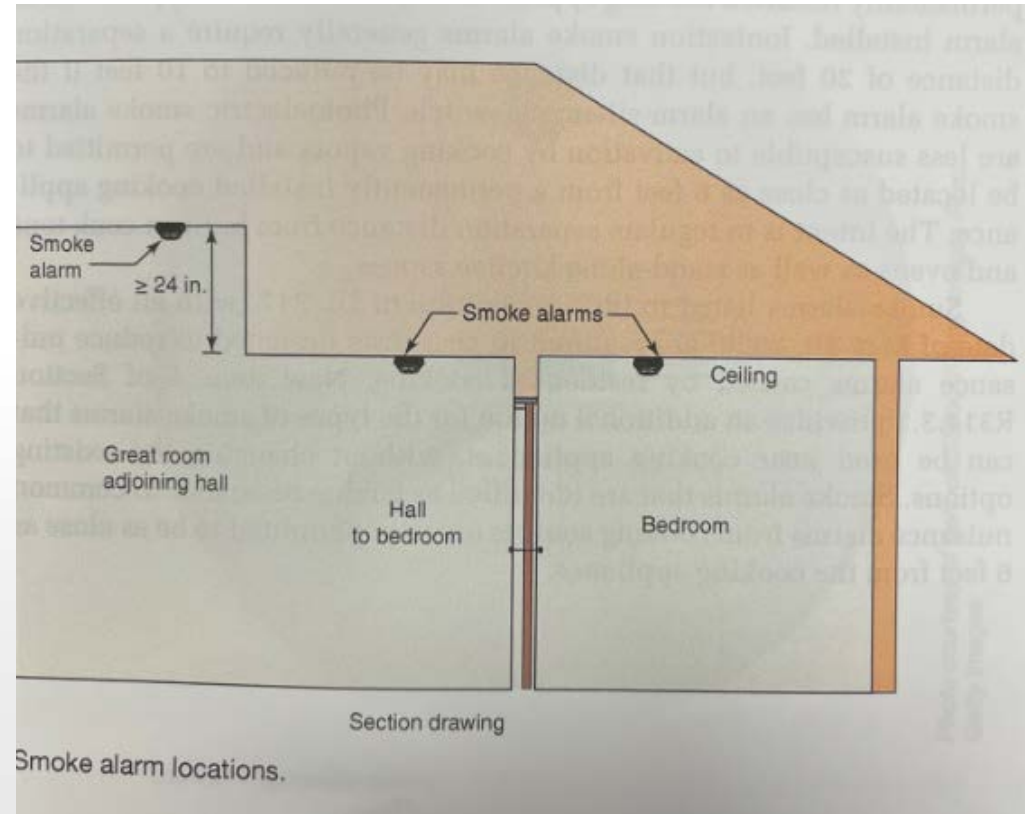
Doors between the garage and the residence must be self-latching.



2021 IRC

- R314.3 Smoke alarm locations

A new location requirement for smoke alarms addresses high ceilings adjacent to hallway serving bedrooms.



2021 IRC

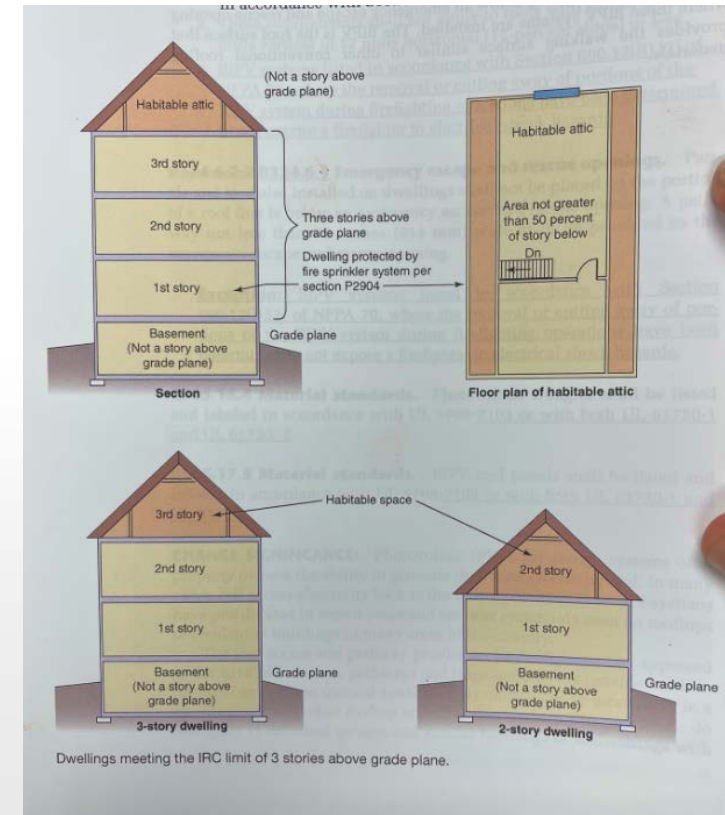


- R315.2.2 Alterations, repairs and additions

Repairs to an existing fuel-fired mechanical system now trigger retroactive requirements for carbon monoxide alarms.

2021 IRC

- The habitable attic provisions have been placed in new section R326 and new restrictions limit their area and require an automatic sprinkler system



2021 IRC

- The provisions of the *International Residential Code* for One- and Two-family Dwellings shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and townhouses *not more than three stories above grade plane* in height with a separate means of egress and their accessory structures not more than three stories above grade plane in height.
- IBC-The provisions of this code shall apply to the construction, alteration, relocation, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures.

2021 IRC

- Where exposed to grade in a crawl space, a class I or II vapor retarder is required on exposed air permeable insulation between floor joists in climate zones 1A, 2A and 3A. (Bell county is 2A)

2021 IRC

- R08.8 Under-floor vapor retarder. A continuous vapor retarder shall be provided on the exposed face of the insulation.
- Exception-Crawl spaces constructed without ventilation. In accordance with R408.3



2021 IRC

- R506.2.3 Vapor Retarder-Thicker vapor retarder is now required.
- 6-mil to 10-Mil



2021 IRC

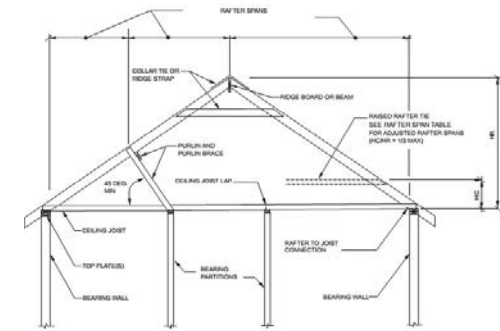
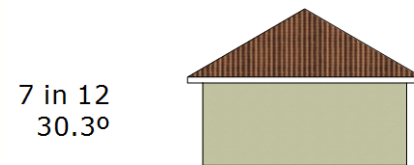
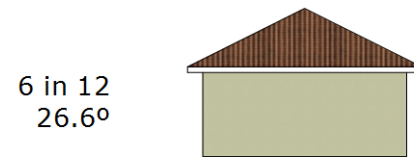
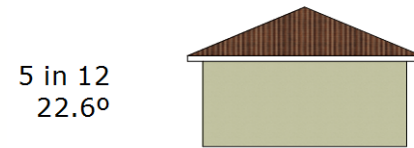
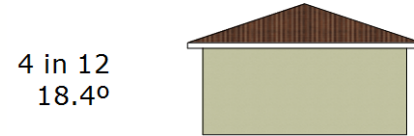
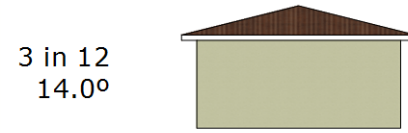
- R609.4.1 All garage doors must have a permanent label identifying wind pressure rating among other information.



GARAGE DOOR COMPANY WINDLOAD COMPLIANCE		
THIS DOOR MEETS DESIGN LOADS FOR WIND SPEEDS ACCORDING TO THE ASTM STANDARD.		
Design Wind Speed 130 mph (C)	psf	
	low	high
	-23.9	21.5

2021 IRC

- 802.6 Bearing
- Text is added to clarify when a ridge board connection is sufficient for bearing.
- 3/12 and greater ridge board is sufficient.



2021 IRC

- R802.6 Bearing
- Less than 3/12 must have bearing surface.

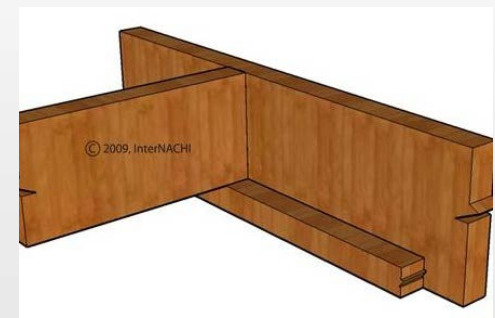
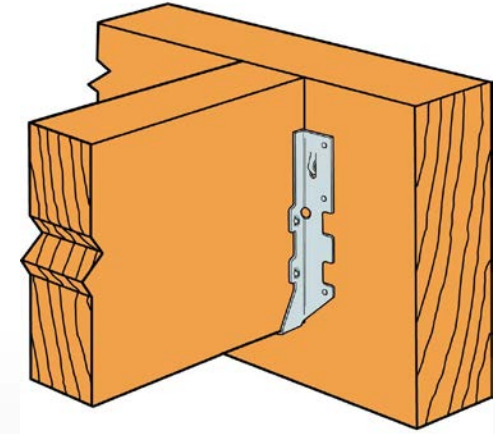


Table 1102.1.2 (IECC R401.2) and 1102.1.3 (IECC R402.1.3)

Increased energy efficiency is achieved with lowered U-factors and increased R-values.

2021 IRC

2021 IRC (IECC)

CHAPTER 4 [RE] RESIDENTIAL ENERGY EFFICIENCY

**TABLE R402.1.2
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT^a**

GHT ^b TOR	GLAZED FENESTRATION SHGC ^{b, e}	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE ⁱ	FLOOR R-VALUE	B W R
	0.25	30	13	3/4	13	0
	0.25	38 49	13 or 0 + 10 ci	4/6	13	0
	0.25	38	20 or 13+5 ^h	8/13	19	5
	0.40	49	20 or 13+5 ^h	8/13	19	1
	NR	49	20 or 13+5 ^h	13/17	30 ^g	1
	NR	49	20+5 or 13+10 ^h	15/20	30 ^g	1
	NR	49	20+5 or 13+10 ^h	19/21	38 ^g	1

2021 IRC (IECC)

Attic/Ceiling Guidelines

R-Value	Minimum Bags/1,000 Sq. Ft.	Maximum Coverage/Bag (Net Sq. Ft.)	Minimum Weight/Sq/ Ft. (lbs.)	Minimum Thickness (inches)
R-49	25.0	40	0.878	19.50
R-44	22.2	45	0.786	17.75
R-38	19.2	52	0.676	15.50
R-30	15.2	66	0.531	12.25
R-26	13.2	76	0.459	10.75
R-22	11.1	90	0.388	9.25
R-19	9.5	105	0.334	8.00
R-11	5.5	182	0.193	4.75

2021 IRC (IECC)

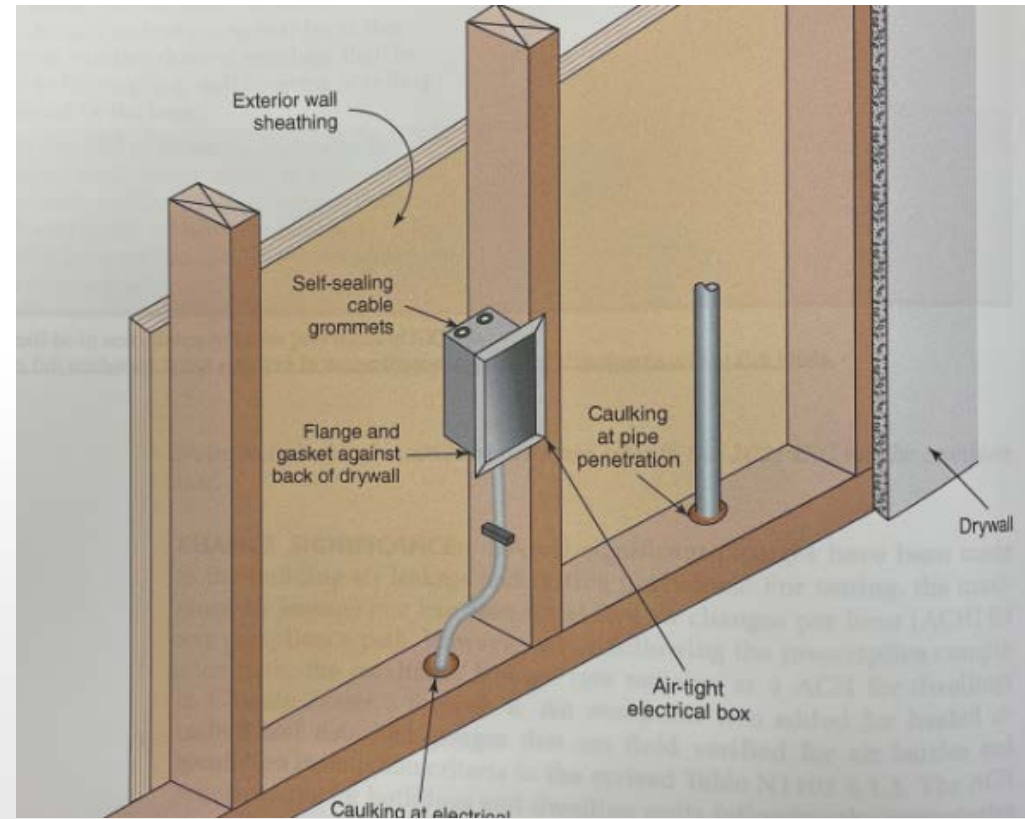
- 1102.2 (R402.2)
- The option for reduction in R-value for ceilings without attics have been adjusted to recognize the change in attic insulation.
- May reduce to R-30 for the lesser of 500 square foot or 20%

2021 IRC

- 1102.2.4 (IECC R402.2.40)
- Access hatches and doors from conditioned to non-conditioned spaces such as attics and crawlspaces shall be insulated to the same level for the wall or ceiling R-value in which they are installed.
- Exception include pull-down stairs that meet the following
 1. U-factor of the hatch must be U0.10 or less
 2. 75% or more of the panel must have a R-value of R-13 or greater
 3. The area of the panel must be less than 13.5 square foot
 4. The perimeter of the hatch be weather stripped.

2021 IRC

- 1102.4.6 (IECC R402.4.6)
Electrical and communication outlet boxes (air sealed boxes)
- Electrical and communication boxes installed in the building thermal envelope must be sealed, tested and marked for compliance.



2021 IRC

- 1103.3.5 (IECC 403.3.5) Duct Testing
- The exception for duct testing of ducts located entirely in conditioned space has been removed.

2021 IRC

- 1104.1 (IECC R404.1)
- High-efficacy lighting is now required on ALL permanent lighting fixtures.



2021 IRC

- 1104.2 (IECC R404.2) Interior lighting controls
- New provisions have been added to regulate lighting controls for interior and exterior lighting
- Permanently installed lighting fixtures shall be controlled with a dimmer, an occupant sensor, or other control that is installed or built into the fixture.
- Exceptions:
 1. Bathrooms
 2. Hallways
 3. Exterior lighting fixtures
 4. Lighting designed for safety and security

2021 IRC

1104.3 (IECC
R404.3) Exterior
lighting controls

New provisions
have been added
to regulate lighting
controls for
exterior lighting

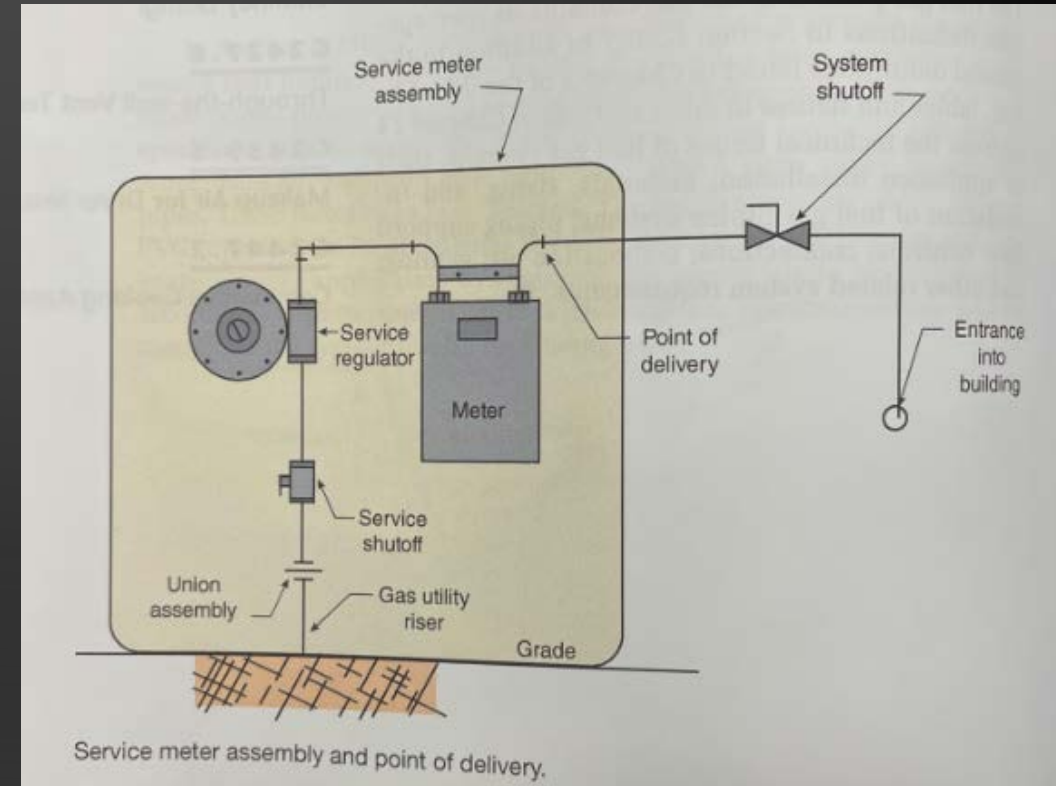
2021 IRC

- 1104.3 (IECC 404.3) Exterior lighting controls
- Where total exterior lighting power is greater than 30 watts the following shall apply:
 1. Lighting shall be controlled by a manual on/off switch that permits automatic shut off actions
 2. Lighting shall automatically shut-off when daylight is present
 3. Controls that override automatic shut-off actions shall not be allowed unless the override automatically returns automatic control to its normal operation within 24hrs



2021 IRC

- G2403 (IFGC 202)
- Revisions to definitions to clarify the portions of the gas piping system regulated by the service utility and the portions regulated by the IRC/IFGC.
- Service meter assembly- The meter, valve, regulator, piping, fittings, and equipment installed by the service gas supplier before the point of delivery.
- System Shut-off- A valve installed after the point of delivery to shut-off the entire piping system



2021 IRC

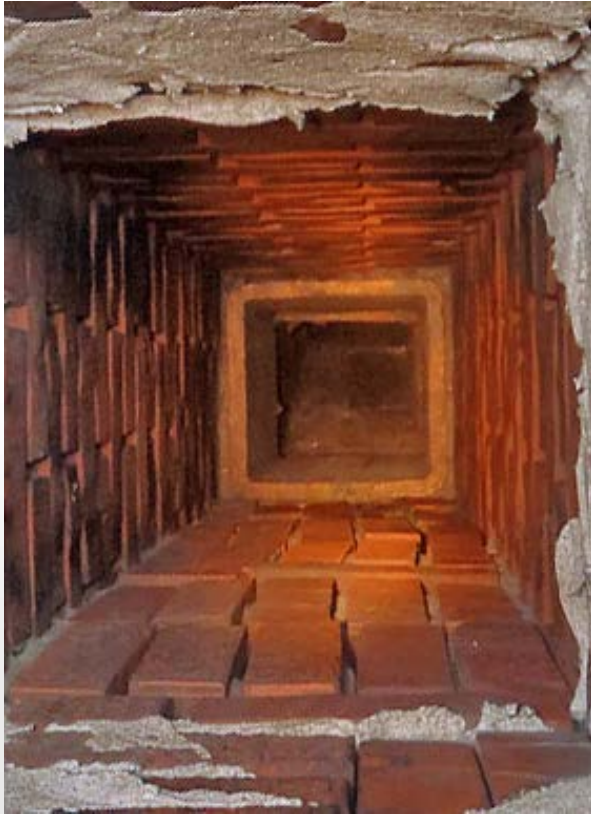
- G2414.8.3 (IFGC 403.8.3)
- Threaded joint sealants are now required for assembling threaded joint in gas piping.
 1. Shall be non-hardening
 2. Shall be compatible with pipe and fitting



2021 IRC

- G2415.5 (IFGC 404.5)
- Plugs and Caps were added to the list of threaded fittings approved for concealed locations.





2021 IRC

- G2427.5.5.1 (IFGC 503.5.6.1)
- The exception allowing an existing chimney to vent replacement appliances has been deleted.

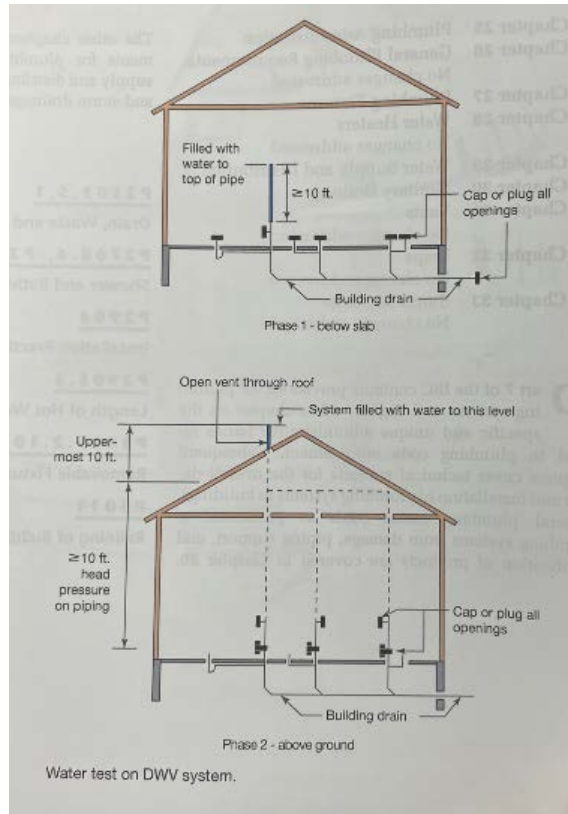
2021 IRC

- G2447.2 (IFGC 623.2) Prohibited locations
- The exception allowing a commercial cooking appliance in a dwelling unit when the installation is designed by an engineer has been removed from the code.
- Only exception is if the appliance is also listed as a domestic cooking appliance.



2021 IRC

- The head pressure for a water test of drain, waste and vent system has been increased from 5' to 10'. Air vacuum testing is now permitted for plastic piping is DWV.



2021 IRC

P2905.3

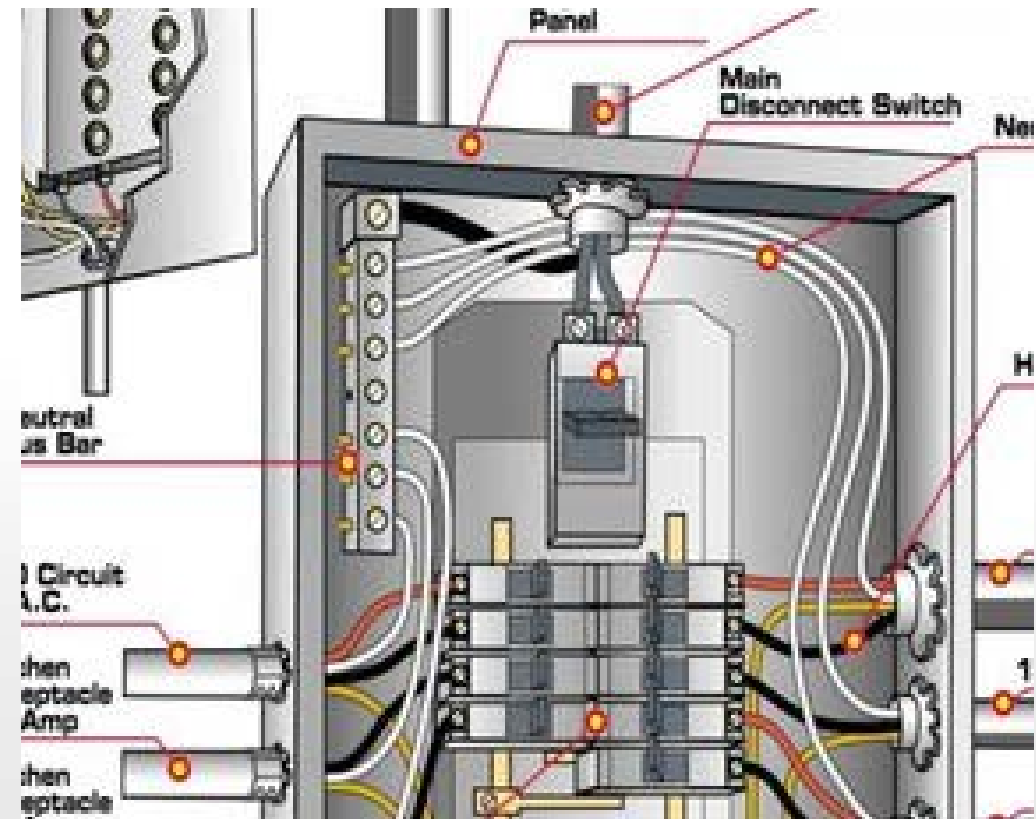
CITY AMENDMENT MADE TO
ALIGN THE 2021 IRC WITH THE
2021 IPC.

NO FIXTURE SHALL BE MORE
THAN 50 LINEAR FOOT FROM
THE SOURCE OF HOT WATER.



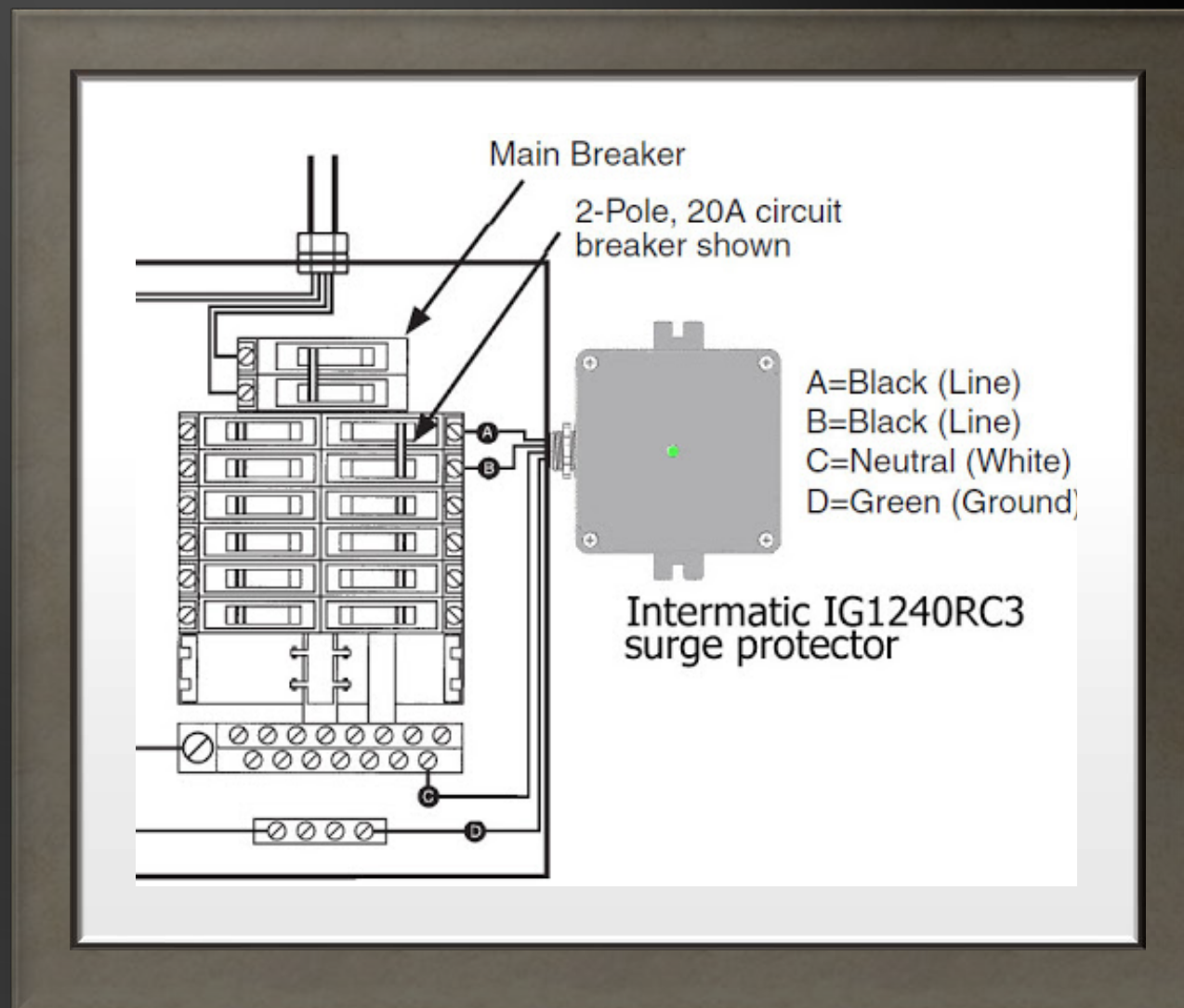
2021 IRC

- E3601.8
- An emergency service disconnect is required in a readily accessible outdoor location.



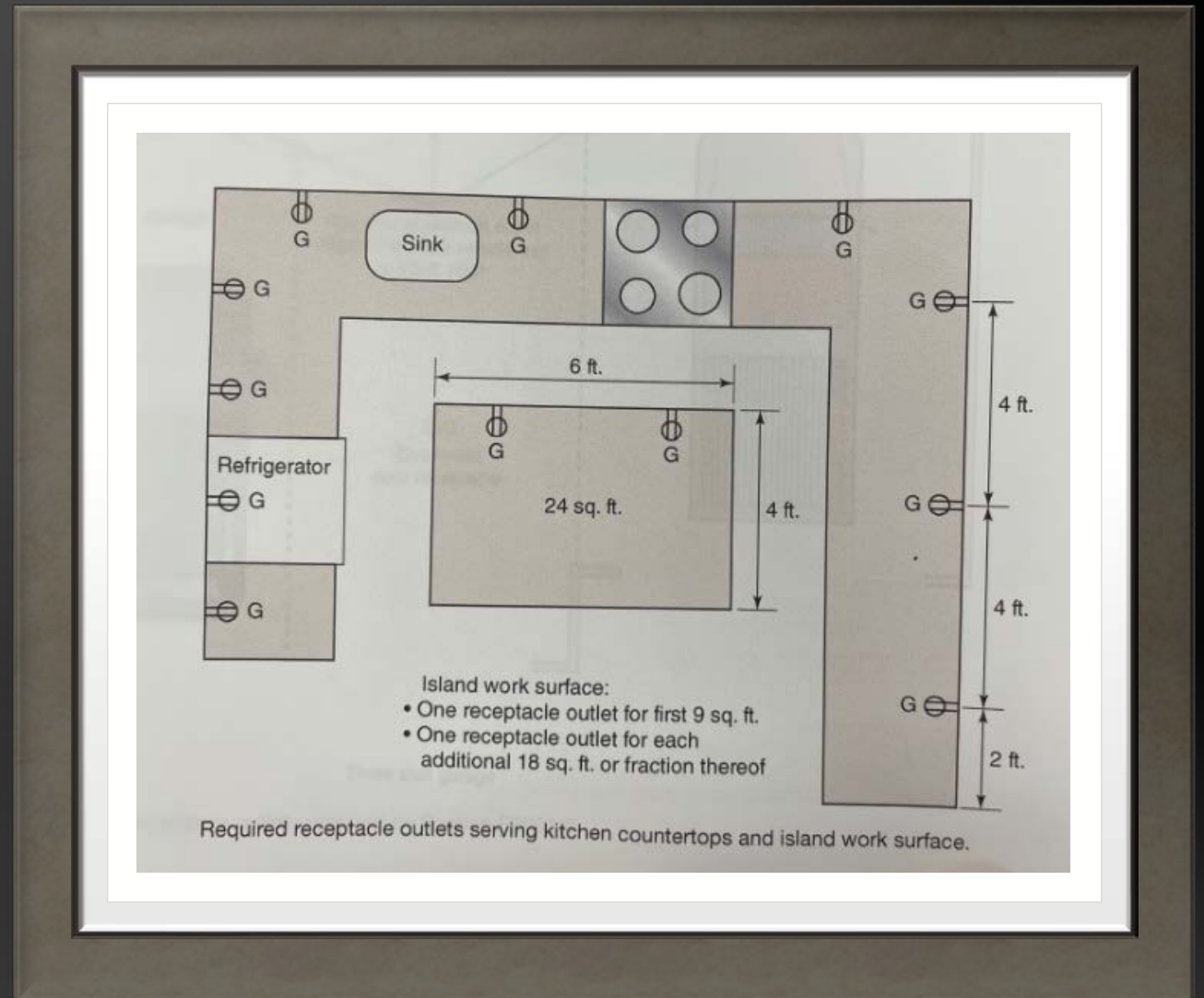
2021 IRC

- E3606.5
- A surge protection device (SPD) is now required at the service panel.



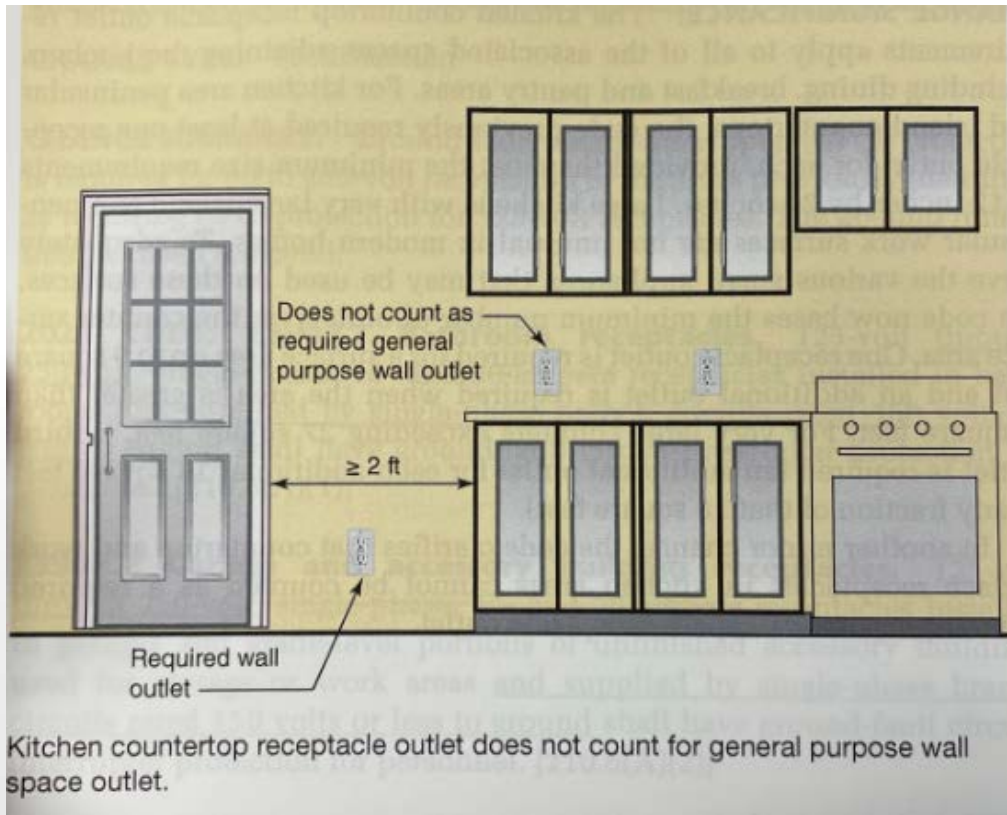
2021 IRC

- E3901.4
- The number of receptacle outlets required for peninsular and island countertops in kitchens is determined by the area of the countertop surface.



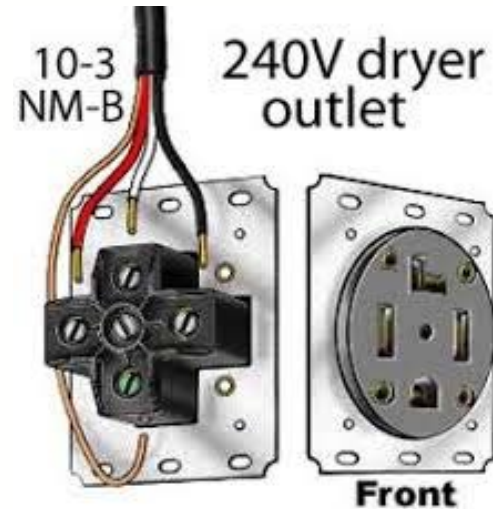
2021 IRC

- E3901.4
- **Kitchen countertop receptacles do not count for general use wall space outlets.**



2021 IRC

- Ground –fault circuit-interrupter (GFCI) protection is required for up to 250-volt receptacles in the areas previously identified as requiring GFCI protection for 125-volt receptacles. The 20-amp limitation has been removed.
- 2020 NEC 210.8 (f) outdoor outlets. All outdoor outlets for dwellings less than 50AMP shall have GFCI protection.



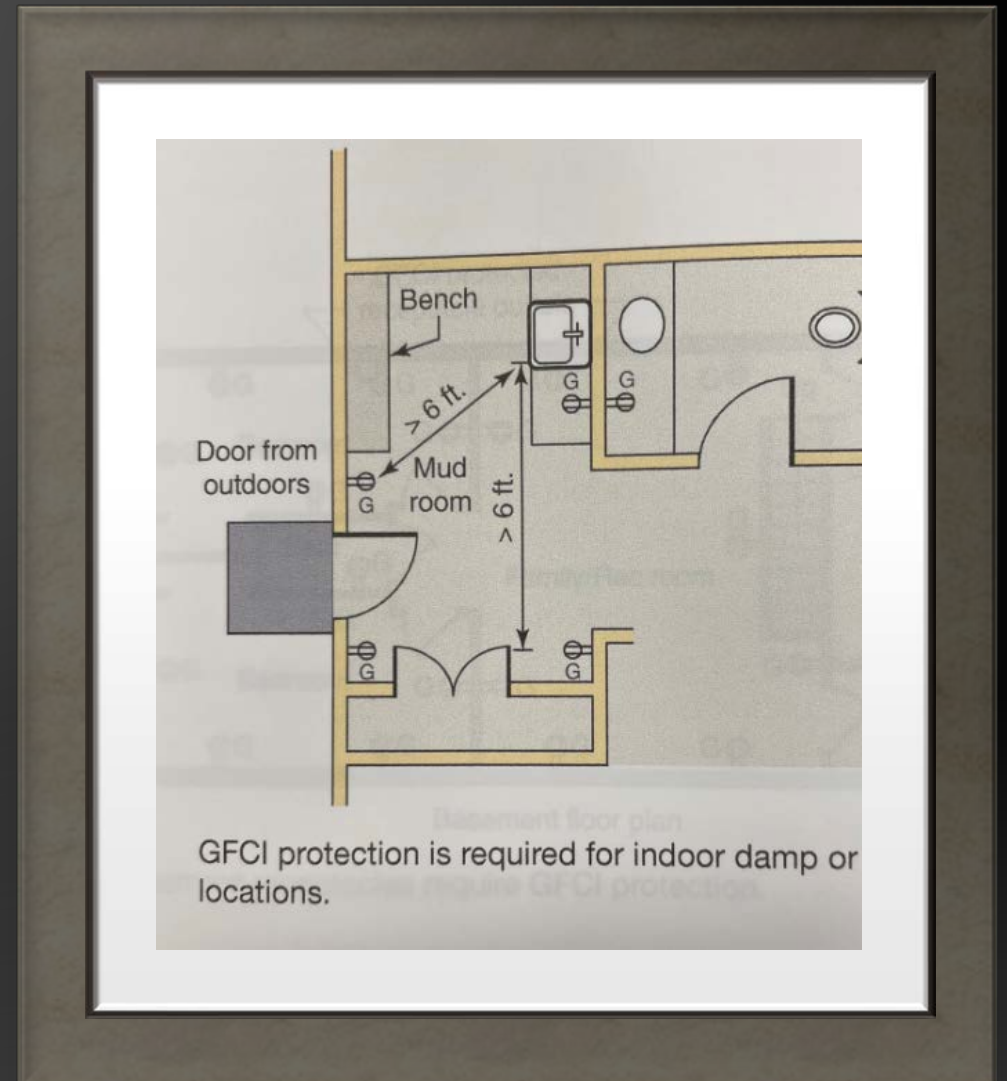


2021 IRC

- **OUTLET.** A point on the wiring system at which current is taken to supply utilization equipment.
- **RECEPTACLE.** A receptacle is a contact device installed at the outlet for the connection of an attachment plug. A single receptacle is a single contact device with no other contact device on the same yoke. A multiple receptacle is two or more contact devices on the same yoke.
- **RECEPTACLE OUTLET.** An outlet where one or more receptacles are installed.

2021 IRC

- E3902.10
- GFCI protection is now required for indoor damp and wet locations not included in the other specific locations requiring GFCi protection.





QUESTION AND ANSWER



THE END



THANK YOU!

