

2023 National Electrical Code Update PWD BUILDING DIVISION



Electrical Code Background



- National Electrical Code Updates Every 3 Years
- PWD Policy Update the NEC within one year of adoption by the State of Colorado as required by Title 12, Article 115 of the CRS.

- NEC has been established to:
 - Protect Life
 - **Protect Property**
 - Improve Building Performance Re: Reduced Energy Consumption Through Automation & Controls
 - **Coordinate With Industry Professionals**
 - Recognize New / Emerging Alternative Materials and Practices Revise Previously-Adopted Practices No Longer Deemed Relevant





Proposed Code Update & Mandated By State of Colorado



Current Code

2020 National Electrical Code

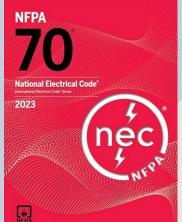
This Code has been in effect in Arapahoe County since the adoption of the 2021 Building Codes, as they were adopted concurrently, and with an implementation date of April 1, 2022.



Proposed Code 2023 National Electrical Code

This Code has been in effect at the State level since June 30, 2023 and as adopted by the State of Colorado / DORA.

We are required to adopt the NEC as recognized by the State of Colorado within one calendar year from date of adoption.







Benefits of the 2023 NEC Code

2020 to 2023

What Does It Mean?



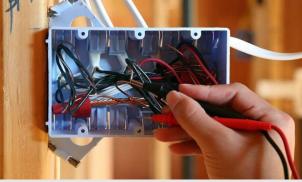


Professional Considerations



What does a new NEC adoption do that is different?

- Provides Latest Protection Features re: Building Occupants & First Responders
- Provides Latest Means & Methods for Electrical Construction
- Aligns With New & Emerging Trade Practices
- Aligns With New Electrical Equipment Provisions, Requirements and Manufacturer Products
- Incorporates New Products into The Body of the Code for Design Considerations and Offers Compliance Methods as Now "Formally Recognized".
- Allows for Future-Planning re: Pending Long-Term Projects (Mass Production Residential / Same Code Cycle Throughout Course of Project & Master Plan Reviews)



Other NEC Considerations



Why adopt the latest National Electrical Code?

- Pursuant to 2023 CRS, Title 12, Article 115, We are required to do so.
- This Statute stipulates that any jurisdiction **must adopt** the latest Electrical Code as recognized by the State of Colorado within one calendar year of the adoption by the State.
- Failure to do so, opens the door for the State to assume operational control of all electrical activity within the County.
- It is a **best practice** recognized by virtually every other jurisdiction within the State of Colorado.
- It brings **continuity and consistency** throughout the State, from the perspective of the Contractor / Customer / Trade-Professional / Design Professional, etc.

Other Considerations

What else the BOCC should know..



There are (3) new House Bills that have an effective date sometime in 2023:

Effective January 1, 2024: HB23-1057 is in effect re: new construction and remodels exceeding \$10,000.00 for non-gender specific restroom accommodations, including baby-changing / station apparatus. (Represents increase in cost of construction)

Effective March 1, 2024: HB23-1233 is in effect re: electric vehicle charging station provisions and accommodations. (Represents increase in cost of construction)

Effective June 30, 2024: HB22-1362 will be in effect and adopted concurrently with the 2023 NEC, re: the Model Electric Ready & Solar Ready Code. (Represents increase in cost of construction)

Effective July 1, 2026: HB22-1362 Low Energy and Carbon Code – Currently Under Development

However, we have been proactive in publishing these anticipated changes, since they were sinto law, through pre-submittal documentation issued at the planning phase of project development & design.

HB23-1233 Requirements



HB 23-1233 requires the facilitation of EV charging at new multifamily housing and major renovations affecting more than 50% of the parking area of existing multifamily housing.

The bill facilitates level 1 or level 2 charging systems.

A prohibition for landlords does not allow them to prohibit the installation of EV charging in a leased premises or a unit that has an assigned or deeded parking space as long as the installation is done at the unit owner's expense.

It is unclear who is responsible for costs associated with electrical service upgrades as multifamily housing units typically have very little provision for electrical expansion.

This applies to residential or commercial rental properties.

EV parking spaces count in the quantity of the required parking spaces.

EV charging systems are exempt from property taxes.



HB22-1362 Requirements Model Electric Ready & Solar Ready Code



Bill provides that all new commercial and residential buildings must be solar ready which includes electric panel capacity, dedicated panel space, conduits, adequate physical roof space and structural capacity for future solar installations.

Residential buildings must be EV ready and EV Capable which includes electric panel capacity, dedicated panel space, conduit and wiring for future EV charging systems.

Multifamily and commercial buildings must be EV Ready, EV Capable with provisions for electric service capacity in 20% or more of parking spaces.

Electric ready requirements apply to residential buildings. This includes the requirement for adequate electric panel capacity, dedicated panel space and other requirements to accommodate high efficiency electrical appliances. Essentially, the requirement for the installation of a gas appliance also requires the provision of electrical circuitry to replace the gas appliance with a high efficiency electrical appliance.

Electric ready requirements also apply to multi-family and small commercial buildings under 10,000 sq ft.

EV supply requirements include electrical service space sized for the anticipated load of EV charging systems, panels and conduits are required for multifamily and commercial over 10,000 sq ft.

Allows the use of approved refrigerants in HVAC systems.



Communication & Design Considerations



An example as to how we have been proactive in communicating these changes:

ARAPAHOE COUNTY	PUBLIC WORKS AND DEVELOPMENT
	BRYAN D. WEIMER, PWLF Director
	Lima Plaza 6924 South Lima Street Centenniel, Colorada 2012-3853 Z20-874-6500 arapehoeco.gov
Referral Comments Re:	A
Attn: (Additional Information / Details Required)	

BUILDING DIVISION COMMERCIAL - NEW CONSTRUCTION PRE-SUBMITTAL CONSIDERATIONS

- NOTICE: The Building Division requires Planning Division review, and approval prior to
 proceeding with Building Permit Plan Review. A Building Permit application submitted prior
 to approval by Planning and the Arapahoe County Engineering Services Division may not be
 reviewed by Building Division without the express written approval of the Building Official.
 Plan review may resume upon notification from the Planning Division that the application is
 approved & released for Building Permit plan review, and that final planning documents
 have been recorded (Previously referred as "Mylars"). It is the applicant's responsibility to
 coordinate any and all development review approvals with Planning & Engineering Services
 Divisions as may be applicable.
- NOTICE: Multiple Building on the Same Lot The Building Division requires all detached individual building and/or structures on the same lot apply for a separate building permit. This includes separate permits for site elements such as swimming pools, spa's, mail buildings, maintenance buildings, trash bin/compactor enclosures, tensile membrane structures (shade sails), pre-engineered shade structures, etc. Each independent building or structure requiring its own permit shall have its own Construction Document package for plan review. Please contact the Building Division to confirm, a Building Division preapplication meeting may be required.
- NOTICE: Separate permit requirements include, but are not limited to: Temporary Construction Trailer, Sales Trailers, Access Control, Low-Voltage / Data, Building Signage, Fire Department / Authority, Temporary Generators, Hi-piled Storage, etc.
- All remaining or unaddressed issues pertaining to upstream Divisions must be satisfied prior to permit issuance. (Mapping, Planning, Engineering / Flood, Zoning, etc.)
- CDPHE / Asbestos, Local Health Department, Local Water / Sewer Authority approval may also apply, to include "will serve" documentation and/or confirmation from the Colorado Water Conservation Board / Authority re: well-water permit approval.
- Local Fire Authority Review: Fire Authority review is a separate application & review
 process specific to the requirements of the applicable Fire Authority of the given site of the
 work. Fire Authority plan review may proceed concurrent with Building Division plan
 review.

COMMERCIAL - NEW CONSTRUCTION PRE-SUBMITTAL CONSIDERATIONS Page 2 of 2

- Provide a complete copy of the Local Fire Authority drawing set approval & permit card, and/or documentation expressly stating that a permit is not required. (Required prior to permit issuance)
- Provide full set of Construction Documents (CD) that are 100% complete, ready for review, submitted as a complete package, and to include but not limited to:
- o Civil / Site Plan; Landscape; Geotechnical / Soils Report(s)
- o Architectural (Site accessibility Plan, Life-Safety Code Plan/Analysis & Egress Plan)
- Structural; Mechanical; Plumbing; Electrical
- Fire Detection / Suppression (Review by Fire Authority)
- Construction Documents submittal required to be uploaded as one CD set of documents. (One compiled, Complete, and Fully Bookmarked by Discipline CD set of documents)
- Construction Documents shall have a clear drawing set organization identified; all drawing disciplines included within the set to be listed on the drawing index.
- Documents must be uploaded in a .PDF format and stamped "Construction Documents".
- Documents security must not be protected to disallow changing or adding markups; Changing the Document & Adding Markups must be "Allowed".
- Documents must follow the established electronic file naming convention as listed on the Arapahoe County Website.
- Provide a Code study in conformance with all currently published County amendments, minimum posted adopted design criteria, and to also include:
 - 2021 IBC
 - 2021 IRC (Where applicable)
 - o 2021 IPC
 - 2021 IMC
 - 2021 IFGC
 - 2021 IECC
 - 2021 IEBC, ISPSC (Where applicable)
 - 2020 NEC (2023 NEC Likely to be adopted no later than June 2024)
 - 2017 ANSI A-117.1
- All submittals must be stamped, signed & dated by a Colorado Licensed Professional Architect / Engineer in responsible charge / of record, where applicable.
- Be advised that Arapahoe County has adopted a resolution to formally recognize the 2021 International Fire Code, as a component applicable to building construction in the County. (Not a formal Code adoption)
- NOTICE: Incomplete submittals will be rejected, and partial reviews will not be conducted.
- HB23-1233 may apply this scope depending on submittal date re: documents for construction / permit. (Effective March 1, 2024)
- HB22-1362 may apply this scope depending on submittal date re: documents for construction / permit. (Effective upon adoption of 2023 NEC / June 2024)
- HB23-1057 may apply this scope depending on submittal date re: documents for construction / permit. (Effective January 1, 2024)



Proposed Schedule



May 14, 2024

BOCC Study Session

June 11, 2024

BOCC Adoption

June 30, 2024

New Code Becomes Effective







