2024 Codes

Inspector Essential Skills

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ICC Preferred Provider

- This course is approved by ICC for Preferred Provider Credit
- Certificates will be issued by WABO

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Course Objectives

1. Provide a clear understanding of the critical code concerns related to townhouse construction
2. Provide context related to common misconceptions related to townhouse construction
3. Address Utah state amendments to the IRC in general

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Seminar Format

1) Finding your "Why"
2) Core Technical Abilities
3) Field Basics
4) Common Code Violations
5) Using New Technology
6) Routines and Documentation

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Seminar Format

7) Teamwork & Cooperation
8) Conflict Resolution
9) Limits of Authority
10) Career Development
11) We are Code Professionals

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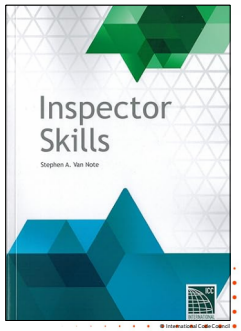
Inspector Soft Skills

- This course is a hybrid focusing on the **hard skills** of inspections, as well as the **soft skills** that will help us to succeed.
- ICC recently published a book on this topic, "Inspector Skills".



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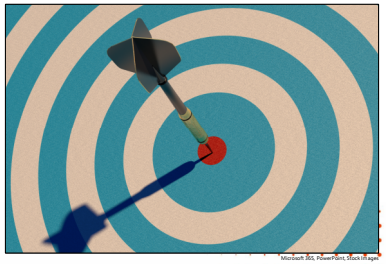
Work on the "Soft Skills"

- **"Small efforts sustained over time can produce significant results."** – *Devin G. Durrant*



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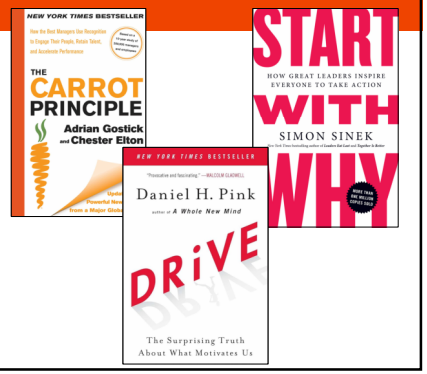
1- Find Your "Why"

- **There is no single universal motivator**
  - Autonomy
  - Mastery
  - Purpose
  - Belief over rewards
  - Recognition



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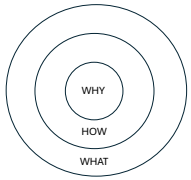
Why work in this business?

- Golden Circle- Simon Sinek
- Work from the inside out
- "When an organization defines itself by what it does, that's all it will ever be able to do."



Thousands of human lives and millions of dollars' worth of property have been sacrificed by the criminal folly of erecting unsafe or defective buildings. So long as those in authority permit such buildings to be erected, neither life nor property can be safe.

1905 National Building Code

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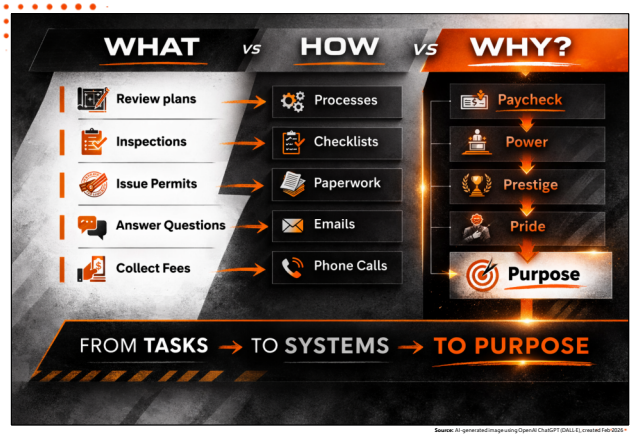

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If you start with what

- Tasks become a chore
- Delays become unbearable
- Decisions lack justification
- Black and white rule the day
- **There is no leadership**

- **Example:**
  - If you start with WHAT → "Because the code says so."

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When you focus on the what

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If you start with why

- Communicate better
- De-escalate conflict
- Make defensible decisions
- Avoid ego battles
- **Lead** rather than just enforce

- **Example:**
  - If you start with WHY → "This protects the occupants in a fire scenario."

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When you focus on the why

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Two Stonemasons

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Tomorrow morning

- When you open your laptop or turn on your computer, what is your why?
- When you walk onto the jobsite, what is your why?
- When you pick up the phone, or start responding to that email, what is you why?

[A] 101.3 Purpose.

The purpose of this code is to establish the minimum requirements to provide a reasonable level of safety, health and general welfare through structural strength, *means of egress*, stability, sanitation, light and ventilation, energy conservation, and **for providing a reasonable level of life safety and** property **protection** from **the hazards of** fire, *explosion* **or dangerous conditions**, and to provide a reasonable level of safety to fire fighters and emergency responders during emergency operations.

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The Results Pyramid

Source: AI-generated image using OpenAI ChatGPT (DALL·E), created Feb 2026

Source: Change the Culture, Change the Game, Roger Connors and Tom Smith

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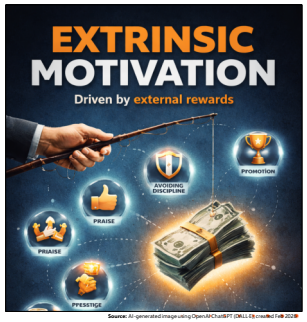
Extrinsic Motivation

- Driven by external rewards/consequences
- **Examples:**
  - Paycheck
  - Promotion
  - Avoiding discipline
  - Praise
  - Prestige
  - Power
  - Avoiding complaints



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Intrinsic Motivation

- Driven by internal purpose/meaning
- **Examples:**
  - Protecting life
  - Pride in craftmanship
  - Professional integrity
  - Service to community
  - Curiosity
  - Mastery

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Application of Principles

- Authority is earned through competence and purpose.
- Start with WHY to lead effectively.
- Code is a tool, protecting people is mission.
- Intrinsic motivation sustains long-term professional excellence.
- Sometimes it requires some soul searching

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Summary

- Authority is earned through competence and purpose.
- Start with WHY to lead effectively.
- Code is a tool, protecting people is the mission.
- Intrinsic motivation sustains long-term professional excellence.
- Experiences shape beliefs, beliefs shape actions, actions determine results.

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2- Core Technical Abilities

- The Foundation of Authority
- Why competence, **not position**, creates credibility in the field

Source: AI-generated image using OpenAI ChatGPT (DALL·E), created Feb 2026

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Learning Objectives

- Understand why technical competence underpins authority
- Identify core technical abilities
- Recognize skill gaps and risks
- Distinguish confidence vs arrogance
- Assess personal strengths and gaps

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Authority in the Built Environment

1. Legal authority
2. Organizational authority
3. Technical authority

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Why Technical Competence Underpins Authority

- Builds trust
- Reduces conflict
- Increases compliance
- Protects public safety

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When Competence Is Weak

- Pushback
- Escalation
- Reputation damage
- Appeals

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Layers of Credibility- Need a Wide and Strong Base!

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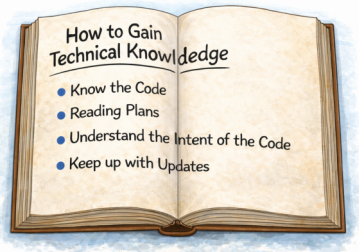
Technical Knowledge

- Code Literacy (Know the Code)
- Plan Reading
- Code Intent
- Updates



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Challenges of being “the expert”

- Expectations
- Jack of all trades
- Codes change
- New materials
- New methods
- Licensed vs. unlicensed

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Application Skills

- Field Conditions
- Judgement Calls
- Prioritization
- Escalation

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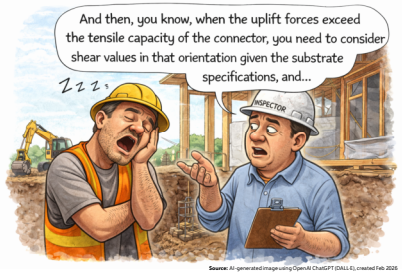
Communication

- Properly communicate the requirement.
- Explain the **why**
- How to tell if they understand
- Don’t over communicate



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Demeanor

- Attitude is everything!
- How do you tell someone they are wrong?
- Be kind and humble
- But not too Kind!!!!

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Technical Abilities as a Foundation

- What's Included in "Technical Abilities"
  - Reading plans and other documents.
  - How to use technology.
  - Inspection Tools and Processes
  - Your authority and responsibility
  - KNOW THE CODE

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Read Plans and Documents

- We need to know how to read more than plans
  - Specs (Everything from concrete mix, to door hardware, to epoxy
  - Manual J and D
  - Truss specs
  - Energy Compliance
  - UL Listings/ Engineer Judgements
  - Geotech
  - And Plan!

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Read Plans and Documents

- Practice outside of scheduled inspections. You can find a completed permit and a current permit and ask your own made-up questions and then go find the answers!
- **Examples:**
  - What door handle are they installing on the front door?
  - What is the total BTU's needed for Heating of the project?
  - What compressive strength is required for the concrete in the foundation walls?
  - What does the rated assembly look like for a penetration through the rated wall?
- You likely won't need all of this info for inspections. But asking these types of questions will help learn documents!

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Know Before You Go!

- How many people review plans and documents as part of their daily schedule **before** you leave the office in the morning?

Example-

Where are the shearwall requirements!

- Do they have their own sheet?
- On the structural framing?
- On the foundation plan?
- On the architectural floor plans?
- I found the shearwall call out, now where is the shearwall table??

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How to use technology

- Processes should not be tailored around your abilities.
- What is best for everyone including applicant, jurisdiction, inspector, design team, future interested parties?

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How to use technology

- Its not just computer and tablets for plan review and inspection reports. What other technologies should we/could we be using?
  - AI and other software
  - "Smart" inspection tools
  - Virtual inspection equipment
  - Drones

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Inspection Tools and Processes

- Take time to know all inspection processes, even the ones that are not your responsibility.
  - Do you understand other inspection processes not under our purview?
    - How do they take a slump test, how do they do a compaction test, what is the process for a blower door test?
  - Are there inspection tools that could be utilized?

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Inspection Durations

How long should an inspection take? (2500 SF House)

- Temp Power- 15 min.
- Underground- 15-20 min.
- 4-way- 45 min. +/-
- Drywall/Stucco/Shower Pan- 15-20 min.
- Footings- 30 min.
- Foundations- 30 min.
- Finals- 45 min. +/-

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Inspector Workload

- How many inspections can you do in a day? (# of stops)
  - Maximum of roughly **15 a day**, effectively
- What about when we're asked to do more?
  - Must have the ability to prioritize
  - Quality vs. Safety- What will hurt someone?

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Equipment

- Code books! (paper/digital)
- Standards/guides (online)
- Electronic inspection software
- Tablet, Phone, Device
- Tape, level, screwdriver, PPE
- Marking pen, paint
- Water, snacks, hat, jacket, gloves

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Authority and Responsibility

- Have the confidence that you have the **authority** to act on behalf of the Jurisdiction with a **responsibility** to look out and protect applicants, owners, and other citizens.

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Know the Code

- What to know
- What don't you know
- How to you learn it
  - Resources
  - Classes
  - Shadowing
  - Deep End!

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Resources for Learning Code

- ICC Subscription
- Access to other standards and code. Get in the codes!
- Other publications like Commentary and third party.
- Make your own! Flash cards and notes. "Cheat Tools"
- AI can help in so many ways!!! *Do a demonstration, have a conversation or make flashcards.

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Go to Class

- Formal trains like this have benefits and a purpose.
  - Group learning will bring good questions and examples.
  - Some time dedicated time for a class is beneficial.
- Can do in person or online.

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Shadowing

- Shadowing can be great for the trainer and trainee.
- If you don't have enough inspectors team up with neighboring jurisdictions.
- Also good to shadow different jobs. Inspectors shadowing plan reviews. Residencial inspectors shadowing Commercial.

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Deep End!

- You will never be completely ready for your job.
- Ask questions on the job. Contractors can be great teachers.
- Unfortunately, sometimes we learn best from making mistakes!

Source: AI-generated image using Google Gemini (Nano Banana 2), created March 2026

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Tools for Improvement

- Find a mentor, within your jurisdiction or elsewhere (ICC Chapter, etc.).
- Job shadow other inspectors from time to time.
- Self evaluations
- Be a resource in your community.
  - Explaining to others is key
- Continuous Improvements
- Rotate roles within the department

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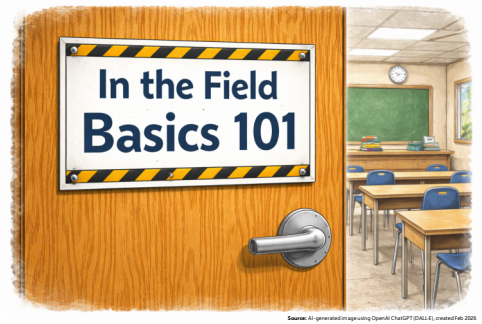
3- Field Basics



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Learning Objectives

- When is a permit required
- Purpose of plan review
- Common Construction terms
- Basic inspection topics

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Purpose of the Code D+

- **R101.3:**
  - Establish minimum requirements to provide a reasonable level of safety, health and general welfare through:
    - Affordability
    - Structural Strength
    - Means of Egress
    - Stability
    - Sanitation
    - Light and Ventilation
    - Energy Conservation
    - Safety to Life and Property
    - Safety to Emergency Responders

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The Plan Review

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Questions

- Why is a plan review required?
- What do you need to look at when performing a plan review?
- What has to be on the plans vs. what can be addressed in the field?
- What if you miss something during the review?

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Why is a plan review required?

- **R106.3:**
  - "The *building official* shall examine or cause to be examined *construction documents* for code compliance."
- **R103.3:**
  - "...the *building official* shall have the authority to appoint a deputy *building official*, the related technical officers, inspectors, plan examiners and other employees."

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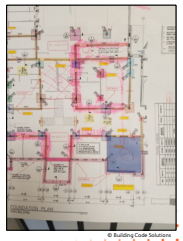
What do you need to look at when performing a plan review?

- **R106.1.1:**
  - "*Construction documents* shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code…as determined by the *building official*."



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What is generally included?

- Permit Application
- Site Plan
- Floor Plans
- Elevations
- Sections
- Details
- Structural Plans
- Structural Calcs
- Geotechnical Report
- Energy Compliance Documents
- Mechanical Sizing (Manual J, D, S)

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What must be on the plans *vs.* What can be addressed in the field?

- **R109.1:**
  - "…from time to time the *building official*…shall make or cause to be made any necessary inspections and shall either approve…or shall notify (that the work) fails to comply with this code."
  - **<u>An ounce of prevention is worth a pound of cure</u>**

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Approval of Construction Documents

- **R106.3.1:**
  - "…*approved* in writing or by a stamp that states 'REVIEWED FOR CODE COMPLIANCE.'"
  - Allows for human error
  - Acknowledges limitations in plan detail
  - Anticipates needed field changes

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Scope

- **R101.2:**
  - "...construction, *alteration*, movement, enlargement, replacement, *repair*, equipment, use and occupancy, location, removal and demolition..."
    - *One- and Two-Family Dwellings*
    - *Townhouses*
    - *Accessory structures*
    - ≤ **Three stories!** *(Exp: Habitable attics – R316.3)*

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Is a permit required?

- **R105.2:**
  - "Exemption from *permit* requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provision of this code..."

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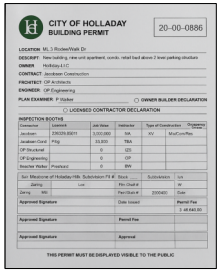
Exempt from Permits *(key items)*

- Detached one-story structures **200 ft²** or less
- Decks **200 ft²** of less, 30 inch or less above grade, not attached to a dwelling, do not serve the exit door
- Minor electrical, gas, mechanical and plumbing work
- Portable appliances
- Replacement of minor parts
- Repairs and maintenance



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What if you miss something in review?

- It may be discovered and corrected in the field
- **R105.6 & 110.4:** "The building official is authorized to suspend or revoke a permit (or certificate of occupancy), issued...in error, or on the basis of incorrect information...or where determined that...is in violation of the...code."
- **R113.1:** "...it shall be unlawful...to (build) in violation of any of the provisions of this code."

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Other Departmental Reviews

- Planning/Zoning
- Public Works
- Engineering
- Code Enforcement
- Public Utilities

Coordinated and often simultaneous!

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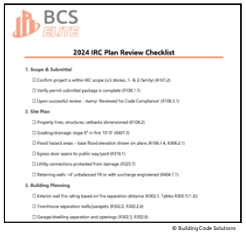
Sample Checklist

- Provided as a starting point
- Can become very extensive, but use caution
- Checklists must evolve over time
- Do not become reliant upon them
- Should be **instinctual** and a backcheck



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Helpful Inspection Actions

- Take notes throughout the process
- Develop mini-checklists
- Develop a list of priority items
- Get an initial feel for overall code compliance
- Don't be hesitant to ask for additional information
- Alert contractors of any issues
- Feel confident and comfortable with your decisions

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Common Construction Terms

The construction and inspection worlds have their own language!

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Framing Members

- King Stud
- Trimmer
- Cripple

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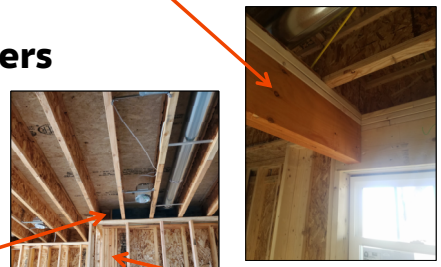
Framing Members

- Beams
- Columns Posts
- Squash Blocks



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Roofs

- Gable
- Hip
- Jack Truss
- Piggy Back
- Web

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Plumbing

- Studer/Air admittance
- Wye vs Sanitary Tee
- Poly/PVC/HDPE/NUPI

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HVAC

- VRV- Variable Refrigerant Volume
- VRF- Variable Refrigerant Flow
- Air Handler




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HVAC

- Black Iron
- CSST
- HDPE/Polyethylene


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Electrical

- Grounded Conductor vs Grounding Conductor
- Is it 220 or 240 Volts 110 or 120

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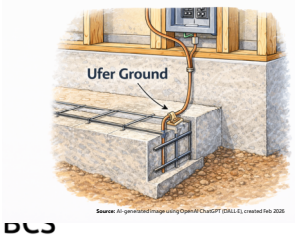
Electrical

- UFER
- Single Phase vs Three Phase

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Wood Wall Framing

- **R602.1:** General
  - **Sawn Lumber** *(R602.1.1):* Must be identified with a grade mark, or have a certificate of inspection
  - **End-Jointed** *(R602.1.1.2):* End-jointed lumber must be identified with a grade mark. (**HRA** = Heat Resistant Adhesive)
  - **Log Members** *(R602.1.4):* Comply with **ICC 400**
  - **CLT** *(R602.1.6):* Identified per ANSI/APA PRG 320
  - **Composite** *(R602.1.5):* Monitored by ASTM D5456
  - **Structural Panels** *(R602.1.8):* DOC PS1 or DOC PS2

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Wood Wall Framing

- **R602.2:** Grade
  - Studs shall be a minimum **No. 3**, standard or stud grade lumber

    Exceptions:
    - Nonbearing studs – Utility Grade
    - Bearing (not supporting floors)- Utility Grade
    - Space per Table R602.3(5)

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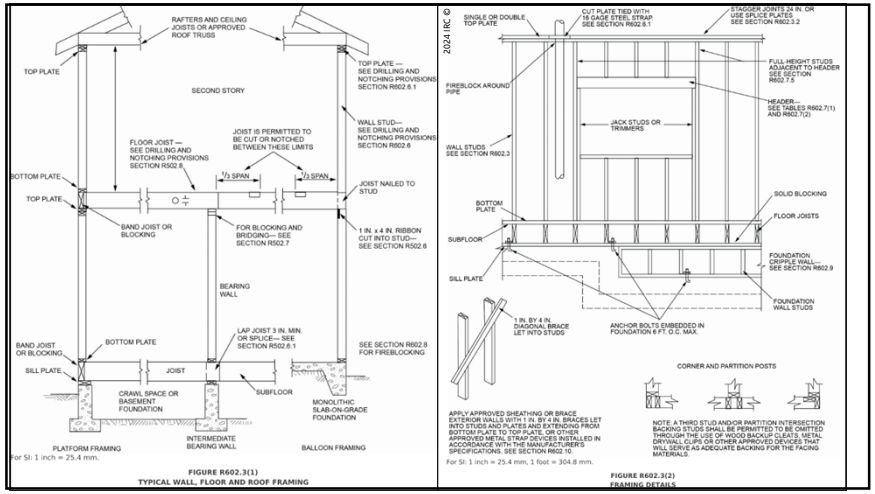

FIGURE R602.3(1)
TYPICAL WALL, FLOOR AND ROOF FRAMING

FIGURE R602.3(2)
FRAMING DETAILS

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Wood Wall Framing

- **R602.3.2:** Top Plates
  - Double top plates required → **24"** minimum splice
  - Single top plates allowed per Table R602.3.2

TABLE R602.3.2SINGLE TOP-PLATE SPLICE CONNECTION DETAILS

CONDITION	TOP-PLATE SPLICE LOCATION			
	Corners and intersecting walls		Butt joints in straight walls	
	Splice plate size	Minimum nails each side of joint	Splice plate size	Minimum nails each side of joint
Structures in SDC A-C; and in SDC D_0 D_1 and D_2 with braced wall line spacing less than 25 feet	3" × 6" × 0.036" galvanized steel plate or equivalent	(6) 8d box (2½" × 0.113") nails	3"× 12" × 0.036" galvanized steel plate or equivalent	(12) 8d box (2½" × 0.113") nails
Structures in SDC D_0, D_1 and D_2, with braced wall line spacing greater than or equal to 25 feet	3" × 8" × 0.036" galvanized steel plate or equivalent	(9) 8d box (2½" × 0.113") nails	3" × 16" × 0.036" galvanized steel plate or equivalent	(18) 8dbox (2½" × 0.113") nails

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Wood Wall Framing

- **R602.6:** Drilling & Notching
  - Notching:
    - Bearing Walls or Exterior Walls: **25%** maximum
    - Nonbearing Walls: **40%** maximum
  - Holes:
    - Bearing Walls or Exterior Walls: **40%** maximum (double required)
    - Nonbearing Walls: **60%** maximum
    - Not within 5/8-inch of edge
    - *Exception:* Stud shoes may be used

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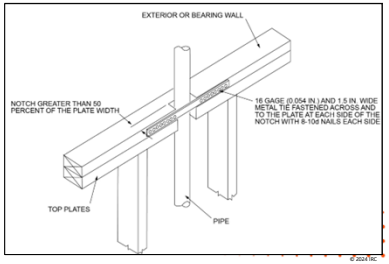
Wood Wall Framing

- **R602.6:** Drilling & Notching
  - Top Plate:
    - If > 50% of top plate width…
    - A galvanized metal tie no less than 0.054 inches thick (16 ga.) and 1.5-inches wide per Figure R602.6.1

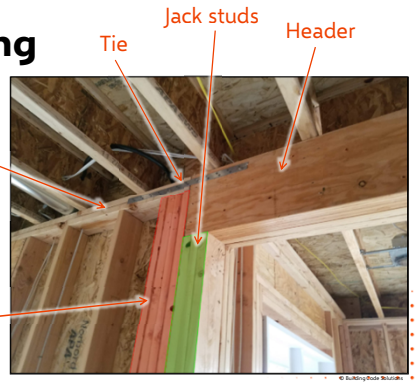


82

83

Wood Wall Framing

- **R602.7:** Headers
  - Header
  - Jack studs
  - King studs
  - Top plate
  - Tie of top plate is omitted (R602.3.2)



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84

Surface Drainage

- **R401.2:** Drainage
  - Lots shall be graded to drain surface water away from foundations.
  - A minimum of **6"** in the first **10-feet**.
  - Surface drainage shall be diverted to a storm sewer or other approved location
- R403.1.7.3: Elevation
  - Top of foundations shall be 12" + 2 % above the street gutter or the inlet to drainage device

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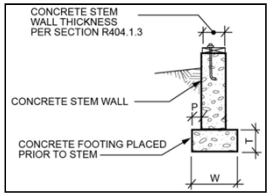
Footings

- **R403.1.1:** Minimum Size
  - Per tables and figures but…
  - ≥ 12" width (W)
  - ≥ 6" thick (T)
  - Projections (P) ≥ 2" and ≤ footing thickness



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Footings

- **R403.1.3.5:** Reinforcement
  - Vertical reinforcement placed in center of wall
  - Shall be secured to prevent displacement
  - Concrete cover:
    - Cast against earth = **3 inches**
    - Removable forms exposed to earth = **1.5 inches**
    - Stay in place forms or not exposed to earth = **3/4 inch**
  - Lap splices per Table R608.5.4(1)*

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TABLE R608.5.4(1)
LAP SPLICE AND TENSION DEVELOPMENT LENGTHS

	BAR SIZE NO.	YIELD STRENGTH OF STEEL, f_y psi (MPa)	
		40,000 (280)	60,000 (420)
		Splice length or tension development length (inches)	
Lap splice length-tension	4	20	30
	5	25	38
	6	30	45
Tension development length for straight bar	4	15	23
	5	19	28
	6	23	34
Tension development length for: a. 90-degree and 180-degree standard hooks with not less than $2\frac{1}{2}$ inches of side cover perpendicular to plane of hook. b. 90-degree standard hooks with not less than 2 inches of cover on the bar extension beyond the hook.	4	6	9
	5	7	11
	6	8	13
Tension development length for bar with 90-degree or 180-degree standard hook having less cover than required in Items a and b.	4	8	12
	5	10	15
	6	12	18

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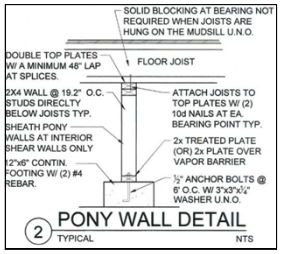
Footings

- **R403.1.4:** Depth
  - Exterior Footings ≥ 12"
  - Frost Protection:
    - Extend **below** frost line
    - Frost-protected (R403.3 or ASCE 32)
    - Erected on solid rock



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Foundation Walls

- **R404.1.7:** Backfill Placement
  - Shall not be placed until sufficient strength has been obtained, and…
  - Foundations have been anchored to floor above or they have been sufficiently braced to prevent damage

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Foundation Walls

- **R405.1:** Drainage
  - Foundation drains are required around all foundations that retain earth, and…
  - Enclose habitable or usable spaces

Exception:

- Not required when foundation is installed on well-drained ground or sand-gravel mixture

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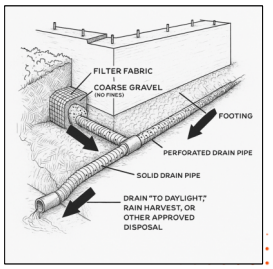
Foundation Walls

- **R405.1:** Drainage
  - Discharges by gravity or mechanical means
  - Gravel or crushed stone drain
  - Extends **≥ 1'** beyond footing edge
  - Extends **≥ 6"** above top of footing
  - Covered in filter material



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Foundation Walls

- **R406.1:** Damp proofing
  - Foundations shall be dampproofed unless they are required to be waterproofed
  - This shall consist of…
    - Bituminous coating
    - 3 lbs./ft^2 of acrylic modified cement
    - 1/8" surface-bonding cement
    - Any waterproofing material
    - Other approved methods

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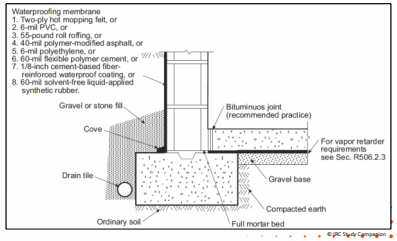
Foundation Walls

- **R406.2:** Waterproofing
  - Foundations shall be water-proofed, if…
    - High water table
    - Severe soil-water conditions



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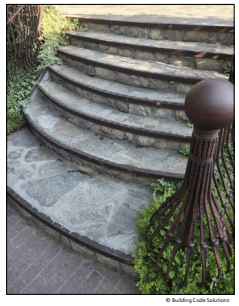
Stairs, Ramps, Decks & Exteriors



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Stairs

- **R318.7:** Exempt
  - Stairs outside, not serving a building, porch or deck
  - Stairways to non-habitable attics
  - Stairways to crawlspaces

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Stair Width

- **R318.7.1:** Minimum Width
  - Stairs shall have **36"** minimum width
  - Measure above the handrail(s)
  - At and below the handrail:
    - 31.5" (one handrail)
    - 27" (two handrails)

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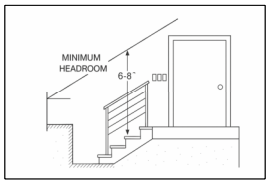
Headroom

- **R318.7.2:**
  - Minimum height of **6'-8"** (80")
  - Measure from a line connecting the nosings
- **R318.7.11.1:** Spiral Stairs
  - 6'-6" (78") allowed



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Vertical Rise

- **R318.7.3:**
  - Maximum rise of a flight of stairs is 12' – 7" between landings
- **R318.7.4:** Winder Treads
  - Walk line is 12" from the inside turn
  - 10" minimum tread depth at the walk line
    - **6" minimum** at narrowest point

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Rise and Run

- **R318.7.5.1:** Rise
  - Maximum riser height 7 ¾"
  - Uniformity to within 3/8"
- **R318.7.5.2:** Run
  - Minimum tread depth of 10"
  - Uniformity to within 3/8"
- Walking Surface: 2% max slope

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Open Risers

- **R318.7.5.1:**
  - Openings >30" above the floor
  - Maximum opening of **4"** diameter sphere

Exception:

- Spiral stairways → 9 ½" maximum

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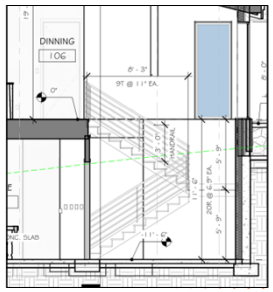
Landings

- **R318.7.6:** Top and Bottom
  - Minimum width = width of the stair
  - Minimum depth = 36”

Exception:

- Landing not required at the top of interior stairs
  - Door not permitted to swing over the stair



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Handrails

- **R318.7.8:** When Required
  - Required on One or more sides at 4+ risers
  - Height: 34” minimum – 38” maximum
  - Maximum 4.5” projection

  (See R320 for specifics)

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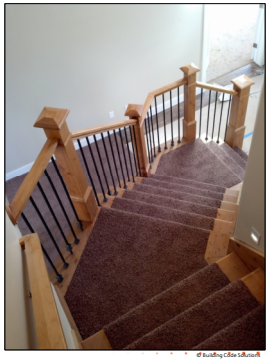
Handrails

- **R318.7.8:** At Least One Side
  - Minimum **1.5”** finger clearance
  - Continuous from top riser to bottom riser
  - Return toward the wall or post

  (See R320 for specifics)

Exception:

- Continuity can be interrupted by a newel post at a turn in a flight with winders, landing, or over lowest tread



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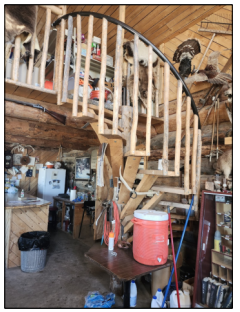
Special Stairs

- **R318.7.11.1** – Spiral
- **R318.7.11.2** – Bulkhead Enclosure (Cellar)
- **R318.7.12** – Alternating Tread Devices
- **R318.7.13** – Ship’s Ladders



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Ramps

- **R318.8:**
  - Where serving egress door- 1:12 slope
  - Not serving egress door- 1:8 slope
- **R318.8.2:** Landings
  - Required at top and bottom, change of direction
  - Width = Ramp x 36" minimum length
  - Handrails on one or more sides (>1:12 slope)

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Guards

- **R321.1.1**
  - Required at walking surfaces elevated more than **30" above adjacent grade** (extending 36" horizontal)
  - Minimum height is **36"**
  - Openings limited to 4" maximum

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Guards at Stairs

- **R321.1.3**
  - Openings in guards limited to 4 3/8" maximum
  - Triangular space at bottom of rail, limited to 6" maximum opening

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Fire Sprinklers & Alarms

- **R309:** Required
  - Townhouses
  - One- and Two-Family Dwellings
  - Designed and Installed Per:
    - P2904 or
    - NFPA 13D

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Smoke Alarms

- **R310:** Required
  - **New Dwelling Units**
    - Each sleeping room
    - Outside each sleeping area (immediate vicinity)
    - On each story (not in crawlspaces or uninhabitable attics)
      - Exception for half-stories
    - At least 3' from bathroom (steam)
    - Where ceiling heights differ > 24"

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Smoke Alarms

- **R310:** Required
  - **Existing Units**
    - When work requiring a permit occurs
    - Except for work involving:
      - Exterior surfaces (roofing, siding, windows, doors, deck)
      - Installation, alteration or repairs to mechanical or plumbing

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Smoke Alarms

- **R310.4:** Interconnection
  - When more than one is installed:
    - Interconnected → one sounds all sound
    - Wireless alarms are accepted
- **R310.6:** Power Source
  - Primary power (hard wired), with battery backup

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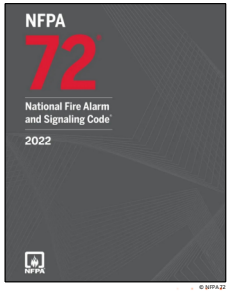
Fire Alarm System

- **R310.7:** Alternative
  - Can be substituted in lieu of required smoke alarms
  - Must comply with **NFPA 72**
  - Same locations
  - Must be permanent fixtures



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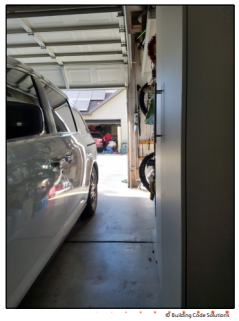
Carbon Monoxide Alarms

- **R311:** Required
  - **New Dwelling Units:**
    - When unit contains a fuel-fired appliance
    - When unit has an attached garage with a communicating opening into the unit



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Carbon Monoxide Alarms

- **R311:** Required
  - **Existing Units:**
    - When work requiring a permit occurs
    - Except for work involving:
      - Exterior surfaces (roofing, siding, windows, doors, deck)
      - Installation, alteration or repairs to plumbing
      - Installation, alteration or repairs mechanical systems that are not fuel fired

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Carbon Monoxide Alarms

- **R311.3:** Locations
  - Outside each separate sleeping area (immediate vicinity)
  - In a bedroom containing a fuel-burning appliance
- *Interconnectivity and Power Source*
  - Same as smoke detectors

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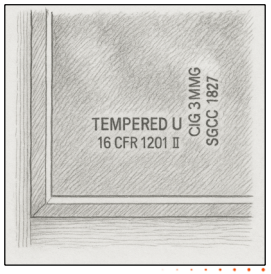
Safety Glazing:

- **R324.1:** Identification
  - Marking from manufacturer required:
    - Acid etched, sandblasted, ceramic-fired, laser etched, embossed
  - Multiple assemblies **1 ft² or less** (only 1 pane label required)



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Hazardous Locations

- **R324.4:**
  - Swinging, sliding and bifold doors
  - Adjacent to doors (24" arc of jamb) and < 60" to bottom
  - Large windows
    - More than **9 ft²**, bottom edge < 18", top edge > 36" and walking surface within 36" horizontally
  - Glazing in guards and railings
  - Structural glass balusters (top rail or two+ plies)

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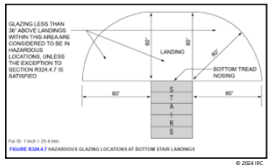
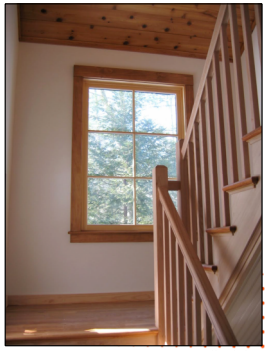
Hazardous Locations

- **R324.4:**
  - Within 60" of wet surfaces (< 60" to bottom)
  - Adjacent to and at bottom of stairs
  - Adjacent to and at bottom of ramps





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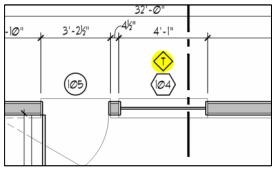
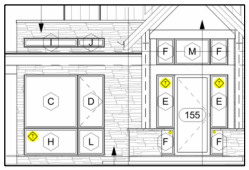
Hazardous Locations:

- How is this shown on plans?
- Window schedule…

Plan View



Elevations



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Summary

- Perception shapes outcomes
- Inspectors operate within a system of competing incentives
- Enforcement and cooperation must coexist
- Intent does not equal impact
- Strong boundaries enable effective teamwork

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4- Common Code Violations

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Missing squash blocks/Load path

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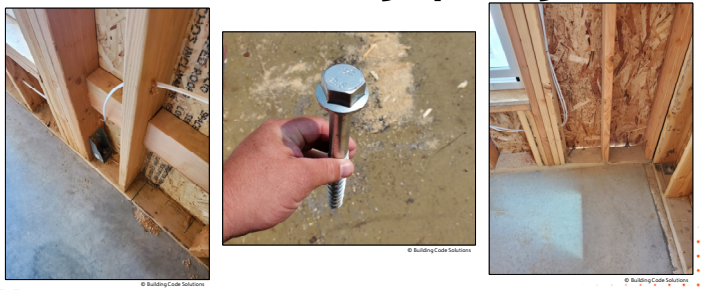
123

Foundation Anchoring Spacing



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Gable End Bracing

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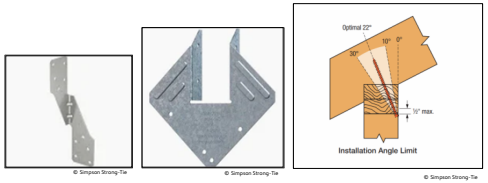
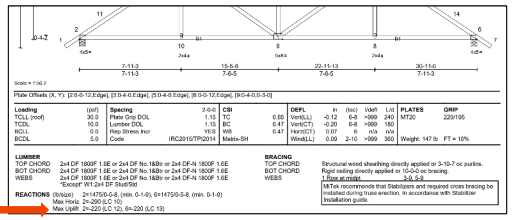
Truss Uplift





H2.5	635
H1	480
Screw	615

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Top Plate Splices

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Boring and Notching

127

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Crawlspaces

- Framing problems
  - Blocking at midbearing
  - Squash blocks
  - unrated wood in contact with concrete
- Miss or mix up Unvented and Vented Requirements
- Equipment and supports
- Insulations

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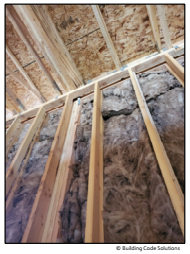
Fire Blocking

- Many understand the idea but sometimes hard to see in the field.



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What do you see?


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131

What do you see?


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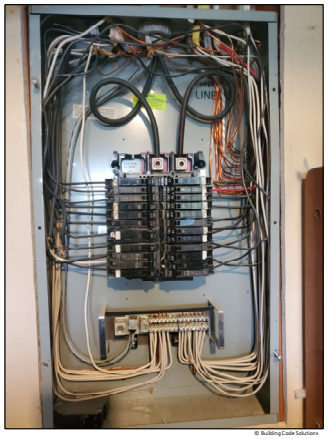
132

What do you see?



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What do you see?

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What do you see?

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5- Using New Technology

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Learning Objectives

- What Technologies are available?
- Keeping Ethical Boundaries when Using Technology
- They are amazing tools but not replacing our responsibilities
- Virtual inspections
- AI in inspections

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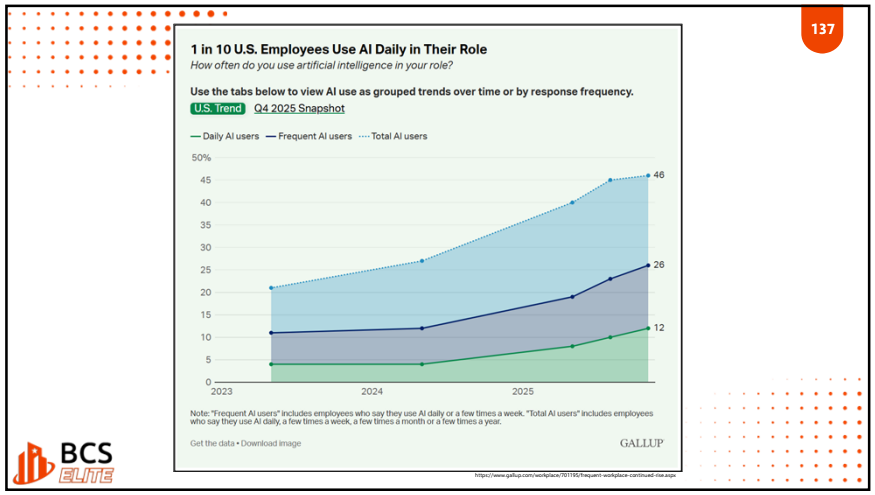

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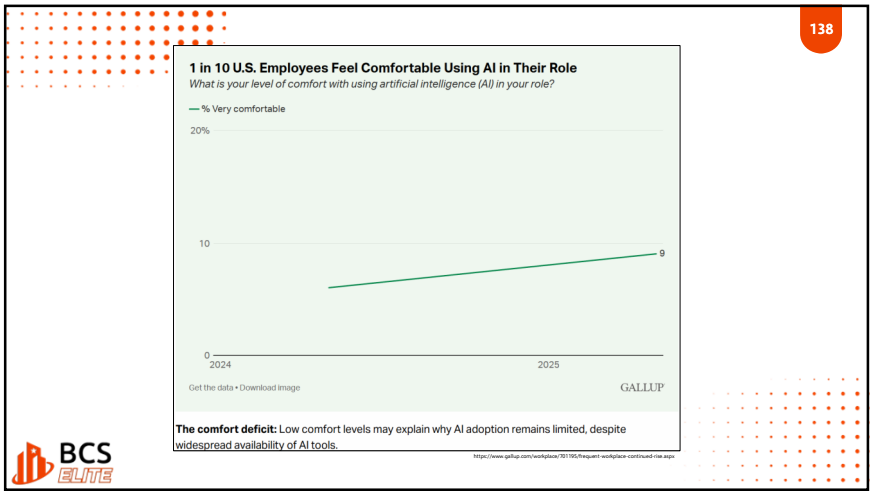

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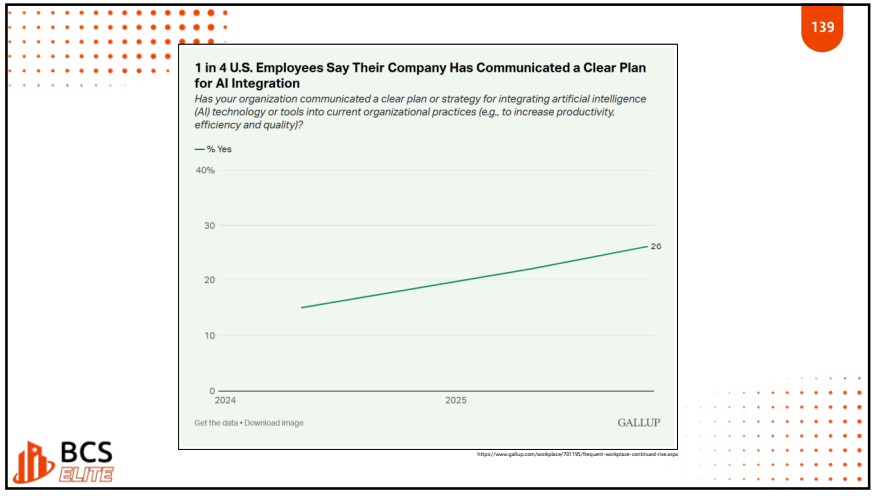

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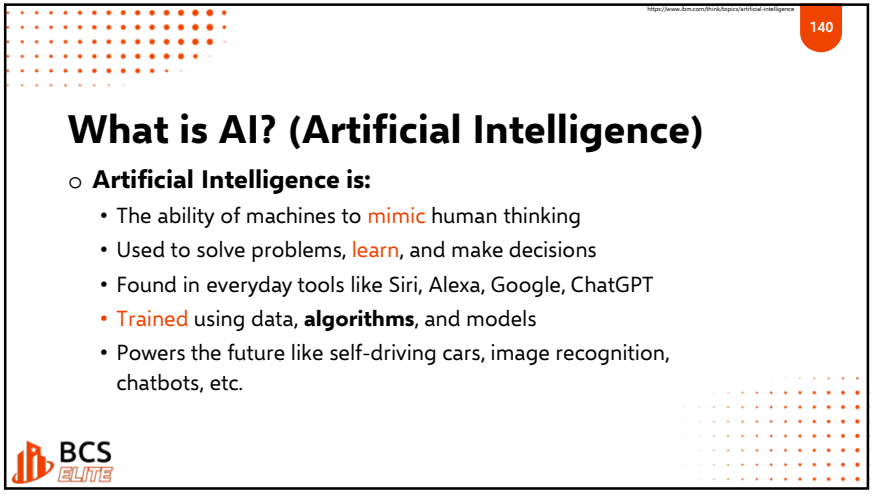

141

AI is the new electricity! -Andrew Ng

- How many different ways can electricity be used?
  - 1805-1807- Electroplating (coating objects with silver, gold, etc.)
  - 1830-1840- Telegraph (Samuel Morse)
  - 1800's (1870)- Arc Lighting
  - 1876- Telephone
  - 1879- Incandescent Lighting (Thomas Edison)
  - 1880s- Electric motors
  - **Modern Day-** Electric cars, cell phones, etc.

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What will society use the "new electricity" to accomplish?

- Potential areas for AI usage:
  - Healthcare
  - Transportation
  - Finance
  - Manufacturing
  - Education
  - **Construction and Building Regulations?**

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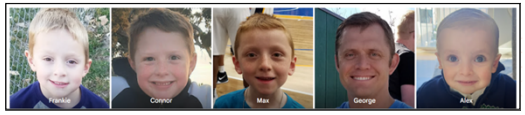
Where have you used "AI" in the past?

- **Autocorrect (spellcheck)-** Fixes typos, misspelled words
- **Navigation-** Google Maps, Waze, etc. (suggested routes)
- **Google/Apple Photos-** Facial recognition, etc.
- **Amazon-** Product recommendations, past behavior
- **Siri, Alexa, Google Assistants-** Listen to voice commands, etc.



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Should we be afraid of AI?

- AI **supports**, not replaces, human interpretation and judgment
- AI can **reduce errors** and increase speed
- Human oversight remains essential in final decisions
- AI helps professionals focus on complex issues

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Resistance to Generative AI- Study

2025 Study- Brigham Young University

Key Concerns:

- Output Quality (inaccurate, unreliable) 20.8%
- Ethical Implications (illegal, dishonest, cheating) 17.3%
- Risky (untrustworthy, unsafe, leak info, get user in trouble) 16.5%
- Loss of human connection (impersonal, artificial, loss of connection) 16.0%

Voluntary non-use: Opting out due to personal or strategic reasons

Involuntary non-use: Access, cost or lack of skills prevent use

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Wells, T. M., Steffen, J., Hughes, A. L., Richardson, B., Meservy, T., & Schuetzler, R. M. (2025). *Resistance to generative AI: Investigating the drivers of non-use.* Proceedings of the 58th Hawaii International Conference on System Sciences. https://hdl.handle.net/10125/108876

145

Source: Rogers, Diffusion of Innovations

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Innovations always face resistance

Seat Belts: ≈ **30+ years** to widespread use

- Low perceived relative advantage ("I won't crash")
- Poor compatibility with cultural norms (freedom, masculinity)
- Benefits not observable unless a crash occurred
- Government mandates eventually prevailed

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Source: Rogers, Diffusion of Innovations

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Innovations always face resistance

Hybrid Seed Corn: ≈ **20-25+ years** to widespread use

- Limited trialability (full-season commitment)
- High perceived risk of crop failure
- Adoption depended heavily on peer opinion leaders (neighbors)

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Source: Rogers, Diffusion of Innovations

148

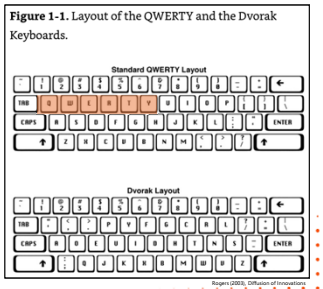
Innovations Aren't Always Made

QWERTY Keyboard: 1873

- Designed to **slow-down** typist and prevent jambs

Dvorak Keyboard: 1932

- Spent 10 years studying time-and-motion, filming people typing
- Typist on the Dvorak keyboard own all typing records



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Text Message vs. Morse Code- 2005

Innovation takes time

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Source: Rogers, Diffusion of Innovations

150

Innovations Have Consequences

California: 1962

- Soft tomatoes- hand picked
- 4,000 tomato farms
- 50,000 farmworkers picking

Hard Tomatoes: 1971

- Tomato-picking machines ($65K each)
- 600 tomato farms
- 18,000 farm workers

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Source: Rogers, Diffusion of Innovations

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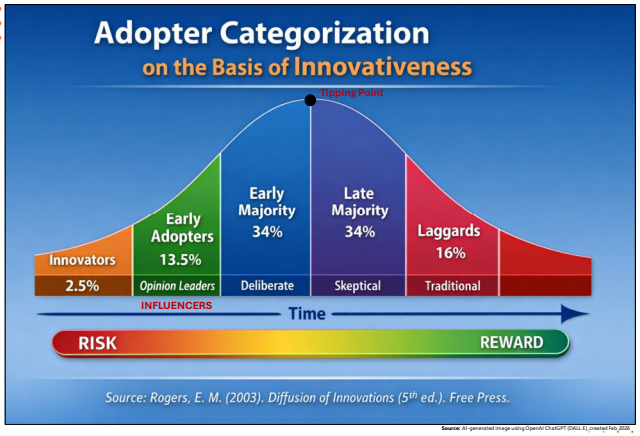
Adopter Categorization

on the Basis of Innovativeness



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Source: Rogers, Diffusion of Innovations

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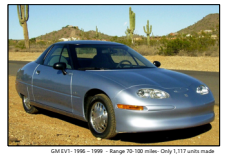
Who are the innovators? (2.5%)

- **Who they are**
  - Venturesome, risk-tolerant, technically curious
  - Willing to accept failure and uncertainty
- **Role in diffusion**
  - Introduce new ideas into the system
  - Absorb early failures before the innovation stabilizes
- **Key insight**
  - Innovators are essential—but rarely persuasive to the majority



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Source: Rogers, Diffusion of Innovations

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Early Adopters (13.5%)

- **Who they are**
  - Respected opinion leaders (Influencers)
  - Pragmatic but forward-looking
- **Role in diffusion**
  - Translate innovation into practical use
  - Legitimize the innovation for others
- **Key insight**
  - Early adopters reduce uncertainty for the social system.

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Source: Rogers, Diffusion of Innovations

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Early Majority (34%)

- **Who they are**
  - Deliberate, cautious, peer-oriented
  - Rarely leaders, but highly influential by sheer numbers
- **Role in diffusion**
  - Mark the **tipping point** for widespread adoption
  - Adopt once benefits are proven and risk is reduced
- **Key insight**
  - Diffusion accelerates only when the early majority adopts.

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Source: Rogers, Diffusion of Innovations

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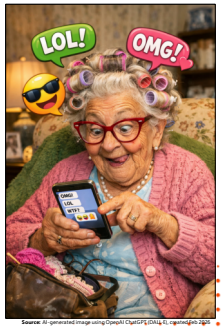
Late Majority (34%)

- **Who they are**
  - Skeptical, cost-sensitive, risk-averse
  - Often constrained by resources or institutional pressure
- **Role in diffusion**
  - Adopt due to necessity, norms, or mandates
  - Often follow only once non-adoption becomes **risky**
- **Key insight**
  - The late majority adopts under pressure, not enthusiasm.



Source: AI-generated image using OpenAI ChatGPT (DALL·E), created Feb 2026

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Source: Rogers, Diffusion of Innovations

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Laggards (16%)

- **Who they are**
  - Tradition-oriented, change-resistant
  - Often isolated from opinion leaders
- **Role in diffusion**
  - Preserve existing practices and norms
  - Adopt only when alternatives disappear
- **Key insight**
  - Laggards resist change not because they are irrational, but because their values differ.

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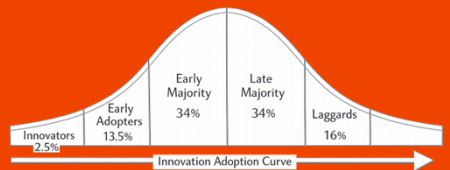
How would you describe yourself?



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What different AI platforms exist?

- **ChatGPT-** (OpenAI)- Used for general purpose AI, chatbots, coding and as a productivity tool
- **Microsoft Copilot-** (OpenAI partnership)- Integrated into MS Word, Excel, Outlook & Teams
- **Google Gemini-** Used for general purpose AI, productivity, good for search integration *(was Bard)*
- **Claude (Anthropic)-** Conversational AI, used in enterprise and legal fields
- **Amazon Bedrock / Titan-** Cloud AI services, used by developers and enterprises

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What different AI platforms exist?

- **LLaMa-** (Meta/Facebook)- Open-source LLMs for research & apps
- **Adobe Firefly-** AI image generation and editing
- **IBM Watsonx-** Enterprise AI for finance, healthcare, compliance
- **Midjourney-** High-quality artistic image generation
- **Perplexity AI-** Real-time AI search and summarization with citations
- **Many, many, many others….**

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Building Department Specific

- **Archistar-** Focuses on site analysis, zoning envelopes, and development potential, with architectural checks
- **ichiPlan-** Detailed AI plan review for building departments
- **CodeComply.ai-** Emphasizes structured code logic and repeatable checks
- **Clarity/CivCheck-** Improves routing, tracking, comments, and coordination
- **PlanChekPro.ai-** Fast, practical automation for common plan issues
- **Many others….**

Archistar ichiPlan CodeComply.ai Clarity CivCheck PlanChekPro.ai

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AI for Field Inspections

- **Field-based AI** will increasingly **support** inspectors by enhancing preparation, documentation, and consistency, while on-site judgment, authority, and safety decisions remain firmly human responsibilities
- **Pre-inspection intelligence:** AI can summarize permit history, prior corrections, and applicable code sections before inspectors arrive
- **Real-time documentation support:** AI-assisted note-taking, photo tagging, and report drafting can save time in the field
- **Consistency and trend awareness:** AI can help flag repeat violations or patterns across projects without dictating enforcement outcomes
- **Human authority preserved:** Final inspection determinations, corrections, and enforcement actions remain the inspector's responsibility.

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Inspection Tasks at Risk

- **Photo-based verifications** (AI drone scans for firestopping, insulation thickness, rebar placement)
- **Routine field documentation** (AI can auto-generate daily reports from photos/videos)
- **Visual measurements** (clearances, spacing, dimensions)
- **Paper Code Usage** (Digital codes are now at your fingertips, retrievable, reliable and quick)

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Inspector Tasks to Remain

- **Contextual judgment** (is this assembly *actually* safe?)
- **Contractor accountability** (AI can flag, but someone must enforce)
- **On-site problem solving** (field modifications, unforeseen conditions)

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The Sci-Fi Future *(What' is Possible?)*

- **Field Tools-** AI scanning, imaging, measuring
- **Photo Recognition-** Take a picture, AI interprets what it sees
- **AI in Design-** Prevents architects/engineers from designing contrary to code
- **AI Form/Report Generation-** Based on visuals, audible voice, etc.
- **Predictive Issues (field and/or plans)-** Contractor or Architect (A here's what they tend to miss tool)
- **Robot Inspectors?-** I don't think so

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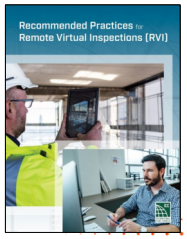
2021 IRC- Resource A (Not in 2024 IRC)

- **Recommended Practices for Remote Virtual Inspections (RVI)**
  - Started with photos, Facetime, videos etc. (Covid)
  - Evolved to proprietary software
  - Effective for remote locations (with cell service)
  - Needs some "guardrails" and clear communication
  - Documentation is key
  - What types of inspections are well suited for RVI?



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Source: AI-generated image using OpenAI ChatGPT (DALL-E), created Feb 2026

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2021 IRC- Resource A

- RVI's can:
  - Increase inspection efficiency
  - Reduce costs
  - Improve convenience for customers
  - Potentially enhance inspection quality in certain circumstances
- RVI's can't:
  - Be effectively used on complex inspections
  - Work where no Wi-Fi or cell service exists
  - Smell gas
  - Full replace in-person inspections

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Prepare for Inspection

- Ensure jobsite safety.
- Use a fully charged device (phone, tablet, drone).
- Confirm strong Wi-Fi or 4G service.
- Have required tools available (flashlight, tape measure, ladder, testers, etc.).
- Provide approved plans and permit documentation onsite.
- Ensure good lighting and clear visibility of inspection items.
- Clean device lens and disable notifications to avoid interruptions.

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Inspection Process

- The representative must be able to verbally communicate with the inspector.
- Follow inspector directions carefully and allow adequate time.
- Do not conceal corrections until verified.
- Reinspection fees may apply.
- Results entered into AHJ permit database and identified as RVI.
- Comments and corrections posted per normal AHJ timelines.
- Reinspections scheduled based on availability.
- Electronic documentation of corrections may be accepted at inspector's discretion.
- Address and permit number must be included in all communications.

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Overall Intent

- The RVI process is designed to:
  - Achieve the same compliance outcomes as in-person inspections
  - Maintain code enforcement integrity
  - Provide flexibility through technology
  - Preserve AHJ authority and discretion at all stages.

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Summary

- Perception shapes outcomes
- Inspectors operate within a system of competing incentives
- Enforcement and cooperation must coexist
- Intent does not equal impact
- Strong boundaries enable effective teamwork

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6- Routines and Documentation

Source: AI-generated image using OpenAI ChatGPT (DALL·E), created Feb 2026

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Learning Objectives

- Understand why routines matter
- What types of routines can help with your job
- Recognize documentation as legal protection
- Distinguish verbal vs written approvals
- Identify best practices for inspection records

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Why Routines Matter

- Reduce errors
- Improve consistency
- Increase efficiency
- Build credibility

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What is a Routine?

- Repeatable inspection process
- Standard mental checklist
- Consistent documentation habit

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Inspection Process

- Call ahead where possible
- Verify you're at the right job
- Find the approved plans
- Outside then inside
- Top floor to bottom floor
- Clockwise or counter-clockwise

Site Plan
Building Planning
Structural Aspects
Exterior Items
Energy Compliance
Mechanical & Plumbing
Fuel Gas
Electrical
Appendices

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Help Each Other Learn

- What are some routines that help you in your job?
- Examples:
  - I always stay to the right when doing a final inspection.
  - I map out and number my inspections before I start the day.
  - On a 4way I start with framing members and details, and then walk through again looking at MEP.

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Routines In Different Aspects Inspections

- During Inspections
- Scheduling and record keeping
- Plan Review
- In Communications

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Risks Without Routine

- Misses in violations and processes
- Inconsistent enforcement over different clients and project types
- Increased Liability

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Documentation = Protection

If its not documented, it didn't happen!

Source: AI-generated image using Google Gemini (Nano Banana 2), created March 2026

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Let's Check Your Skills

- How would you write up a correction item for the issues in this photograph?
- What other info might you want?
- Without the contractor present how might your comment change?

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What do we learn from this activity

- More detail the better
- Always better to have combination of written and verbal
- Questions and answers help clarify
- So many details we never thought about giving.
- Easy to misinterpret things

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Who Reads Reports and Records

- Contractors
- Owners
- Public
- Supervisors
- Attorneys
- Judges

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Verbal vs Written

Advantages to Both!

Written	Verbal
Written is Permanent (Can Be an Advantage)	More descriptive
Transferable	Immediate feedback
Thought Out	Understand tone
Recall	Verify Understanding

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Verbal vs Written

Disadvantages to Both!

Written	Verbal
○ Written is Permanent!!! (Can Be a Disadvantage) ○ Misinterpretation of tone or intent	○ Can be too reliant on just verbal ○ We never be passed along with complete accuracy ○ Memory errors

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Using Both is Magic!

- Using both whenever possible is ideal. You get the advantages of both.
- Don't avoid people! Encourage them to be apart of the inspection process

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What Makes a Good Inspection Report

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Good Report?

What is being inspected? ✓ ✗

Where is the violation located? ✗

What is the violation? ✓

What is the next action? ✗

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Good Report?

What is being inspected? ✔

Where is the violation located? ✔

What is the violation? ✔

What is the next action? ✔

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Inspection Report 2034

INSPECTION REPORT

Project Name: The Learing Center
Project Number: 123456
Architect: Dream Makers
Contractor: The Framing Studs

Date: 06/06/2028
Time: 9:00
Inspection Duration: 6 HRs
Travel Time: 15 Min
Travel Miles: 6

INSPECTOR NAME: John Smith
INSPECTION TYPE: 4way
AREA INSPECTED:
INPSECTOR SIGNATURE:

NEW COMMENTS

Completed 4way inspection. Correct items-

1. Install nail plate in plumbing in master bathroom.
2. Missing cs straps on window in front offices.
3. Blocking needed every 2 feet in basement south wall.
4. Protect Romex within 6 feet of attic access.

Call for Reinspection

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Good Report?

What is being inspected? ✔

Where is the violation located? ✔

What is the violation? ✔

What is the next action? ✔

INPSECTOR SIGNATURE:

NEW COMMENTS

Completed first time 4way inspection for entire house and garage. Inspection included exterior shear. The following items need to be corrected-

1. Install nail plate to protect vent in top plate of south wall in Master bathroom on main level.
2. Missing cs straps top and bottom of window in SE corner office of main level. Strapping should be completed according to detail 7 on sheet S3.
3. According to detail 12 on sheet S2, full height blocking is required every 2 feet for the first 2 bays of floor joist on south wall of basement. Blocking is currently installed every 4 feet. Please add the additional required blocking at this location.
4. Please protect Romex laying over bottom chord of trusses within 6 feet of attic access located in upstairs hallway near laundry room.

Exterior shear is approved. Gas is approved and will be submitted for meter.

OK to cover exterior. Please call for reinspection of other items before insulating.

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Inspection Comment Formatting

- Item #
- Note the location (be specific)
- Sheet xx; Detail xx
- Comment
- Code reference (where applicable)
- Can it be read/understood by anyone?

A15. On the east wall above the master bathroom window; an H1 hanger is missing nails. See detail 5/S101.

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Bad Practices

- Not enough detail
- Vague
- Emotional
- Illegible
- Too much info

Photo courtesy of Unsplash

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Good Practices

- Polite language
- Tone
- Detailed but direct
- Supporting Documents
- Photos
- Appropriate Terminology for audience

Photo courtesy of Unsplash

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Tone Matters

- We always think we are right, that's why we called it!
  - Stay open to the idea that we can make a mistake
- Stay fact-based
- Don't offer solutions, that's their job
- Be Professional

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Remember all types of Communication

- Emails
- Texts
- Voicemails
- Photos

- All work communications should follow the Dos and Don'ts
- May be discoverable even if not directed at applicant.
- Careful with use of private devices
- Properly store reports and info

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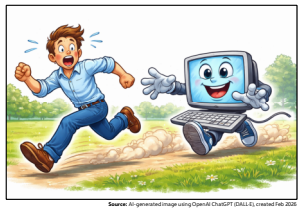
Embrace Technology

- Stop running from it, go digital now!
- What other technology can help-
  - Talk to text
  - Software
  - Apps
  - AI



Source: AI-generated image using OpenAI ChatGPT (DALL·E), created Feb 2026

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Consistency = Credibility

- We should be consistent in our reports and written communication
  - Consistent in terminology
  - Consistent in communication methods
  - Consistent in timely reports
- Stive for Consistency Throughout Your Department

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Summary

- Routines reduce mistakes and increase consistency
- Documentation is your primary legal protection
- Dos and Don'ts of written and verbal communication
- Clear, objective reports protect you and your jurisdiction
- Consistency is critical for credibility

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7- Teamwork and Cooperation

- What is our roles as inspectors and how can we be a team player?

Source: AI-generated image using OpenAI ChatGPT (DALL·E), created Feb 2026

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Learning Objectives

- Understand how inspectors are perceived on site
- Identify the inspector's role in the construction ecosystem
- Balance enforcement with cooperation
- Recognize how intent vs impact affects outcomes
- Define appropriate boundaries for teamwork

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How are Inspectors Seen

- Police
- Referee
- Obstacle
- Necessary Evil
- Partner
- Resource

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What Forms Their Opinion of You?

- Past interactions with Building Departments
- An innate conflict of positional interests
- How you treat them
  - If we act like the police we will be perceived as one.

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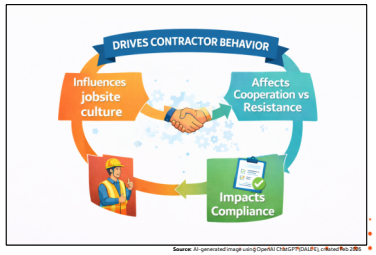
Why Perception Matters

- Drives Contractor Behavior
- Affects Cooperation vs Resistance
- Impacts Compliance
- Influence jobsite culture



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What have they gone through?

- Establishing contracts
- Numerous meetings with owner & design team
- Coordinating revisions with all disciplines
- Numerous hours and late nights

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What have they gone through?

- Now they have to deal with you.
- They cannot shop for the best price or service.
- We tell them it will be so long before we can look at it.
- We spend a few hours on it and provide a long list of issues.

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An Inspector's True Role

- Protect Public Safety
- Code Interpretation
- Risk Mitigation
- Process Checkpoints
- Help Project Progression!!!!

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We should be...

- Professional
- Positive
- A Facilitator
- Good Listeners
- Empathetic
- Honest

Table 3-1 Conversations with Difficult People

Do	Don't
Defuse	Escalate
Stay calm	Argue
Listen	Interrupt
Let them vent	Blame
Speak quietly	Raise your voice
Be objective	Criticize
Remain confident and positive	Take it personally

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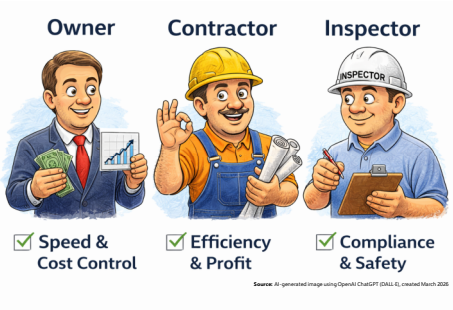
Construction Ecosystem



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Competing Incentives

Source: AI-generated image using OpenAI ChatGPT (DALL·E), created March 2026

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Key Insight

Everyone feels like they are rational within their incentives.

Photo courtesy of Unsplash

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Considerations

- Experience of contractors
- Does item add value to the project? If so, how?
- Are you enforcing this consistently?
- Could the plan review have been better?
- Owner-builder? Experienced contractor?
- More comments does not = higher quality

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Considerations

- Have regular meetings with contractors
  - The same inspection comment on 100 projects may easily be eliminated with one staff meeting.
- You should establish as a department what is important. You cannot be divided.
  - Don't be afraid to change your process

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"If They Build, We Have Work"

- Construction is not the enemy
- Inspectors depend on builders
- Project success = more building

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Enforcement vs Efficiency

- False Dichotomy
- You can be firm and collaborative

How!?!

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What Cooperations Looks Like

- Clear Expectations
- Early Communication
- Consistent Decisions
- Creative Collaborations

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What Cooperation is NOT

- Ignoring Violations
- Making Deals
- Unequal Enforcement
- Changing Behavior to Avoid Conflict

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Intent vs Interpretation

Intent: "I'm Ensuring Safety"

Interpretation: "You're unnecessarily slowing our project"

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Managing "Interpretation"

- Explain the "Why"
- Be predictable by being consistent
- Avoid surprises (Plan Reviews!!!!!)
- Document Clearly

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Boundaries of Teamwork

- You are not part of the design or construction team
  - Not your responsibility to come up with the solution
  - Schedule is not a higher priority that safety
- You are part of the public safety system
  - None bias party to act objectively
  - Remember priorities

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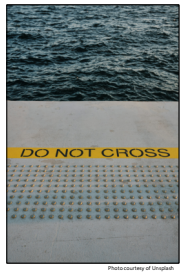
Learn the Line Between Helpful and Inappropriate

Any examples of real-life experiences when this line was "blurry"?



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8- Conflict Resolution

- Why it matters
- Sources of conflict
- Inspector's Role
- Communication Techniques
- Resolution Approach
- Building Relationships
- Tools and Resources
- Empowerment

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Why Conflict Resolution Matters

- De-escalate Tension
  - Prevents volatile situations from derailing inspections or turning confrontational.
- Protect Timelines
  - Unresolved disputes cause costly project delays that hurt everyone involved.
- Build Respect
  - Skilled communicators earn long-term trust that leads to more cooperation on job sites.

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Sources of Conflict

- Code Interpretation
- Defensiveness
  - Pointing out violations can feel like perso
- Time & Stress
- Communication Gaps
  - Vague inspection reports
  - Unclear expectations

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The Inspector's Role

- Stay impartial
  - Apply codes consistently
- Build Trust
  - Turn adversaries into partners
- Communicate Clearly
  - Present findings respectfully
  - Facts not fault
- Problem-Solve
  - Help find workable, code-compliant resolutions

Source: AI-generated image using Google Gemini (Nano Banana 2), created March 2026

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Communication Techniques

- Plain language
- Active listening
  - Acknowledge before responding
  - Letting someone feel heard goes a long way
- Respectful communication
  - Focus on the code requirements
  - Keep it professional – leave personality out of it
  - Stay in the present – leave past issues or performance behind
- Calm Presence
  - Tone and body language are important!

Source: AI-generated image using Google Gemini (Nano Banana 2), created March 2026

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Conflict Resolution Approach

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Building Relationships

- Consistent professionalism
  - Contractors know what to expect from you
  - Predictability builds trust
- Transparency
  - Explain the process
  - Fewer surprises creates less resistance
- Positive Rapport
  - Once you gain someone's respect, they proactively address issues.

Photo courtesy of Unsplash

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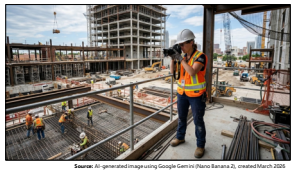
Tools and Resources

- **On the Job Site**
  - Checklists
    - Ensure consistency
    - Defensible findings every time
  - Photo documentation
    - Objective evidence
    - Removes ambiguity
  - Code References
    - Provides the contactor with the information they need
    - Shifts the conversation from opinion to fact



Source: AI-generated image using Google Gemini (Nano Banana 2), created March 2026

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Tools and Resources

- **When Conflict Escalates**
  - Ongoing training
    - Conflict management training keeps skills sh high
  - Ask for help
    - Consult experienced colleagues or supervisors
  - Mediator
    - Neutral third party or formal dispute resolution

Source: AI-generated image using Google Gemini (Nano Banana 2), created March 2026

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Mastering Conflict Resolution Empowers Inspectors

- Protect what matters
  - Safety, timelines, and professional relationships all depend on how well you manage conflict.
- Practice Daily
  - More you use skills, the more natural they become, the better you get.
- More than Enforcement
  - Not us versus them
  - Creating partnerships to ensure code compliance

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Scenario

- **The Dispute:** Contractor challenges a framing violation, claiming recent design changes make it acceptable.
- **The Response:** Inspector listens fully, then reviews the approved plans on site and walks through the specific code requirement.
- **The Resolution:** Both parties agree on corrective steps and schedule a follow-up inspection with a clear timeline
- **The Outcome:** Conflict avoided. Project stays on track. Professional relationship intact.

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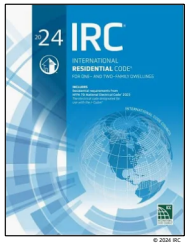
9- Limits of Authority

- **What gives us as inspectors authority?**
  - Chapter 1 of the IRC
    - R104 – Duties and Powers of the Building Official
    - R202 – Definitions:
      - **"Building Official.** The officer or other designated authority charged with the administration and enforcement of this code, or a duly authorized representative."
    - R103.3 – delegate powers to deputies, inspectors, plans examiners, permit techs, etc.



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What Inspectors Can do

- General Authority
- Notice and Orders
- Inspections
- Right of Entry
- Modifications
- Alternative materials, designs, and methods

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General Authority (R104)

- Enforce provisions of the code
- Interpret the code
- Adopt policies and procedures
  - Clarify the application of the code
- Render decisions
- All of the above must be consistent with the intent of the code!

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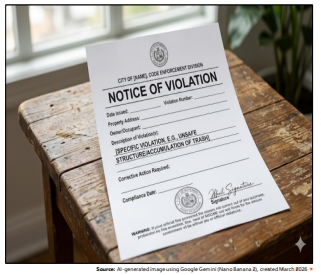
Notice and Orders (R104.6)

- "The building official shall issue necessary notices and orders to ensure compliance with the code."
- Shall be in accordance with R113.2.



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Inspections (R104.7.2)

- Conduct inspections **OR**
- Accept inspection reports by approved agencies or individuals
- Inspection reports must be in writing
- Must keep records

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Right of Entry (R104.4)

- Entry is authorized when:
  - An inspection is necessary to enforce the code
  - There is reasonable cause to believe a violation exists
  - A condition makes the structure unsafe, dangerous, or hazardous

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Right of Entry (R104.4)

- Occupied structures:
  - Present credentials
  - Request entry
  - Enter at a reasonable time
- Unoccupied structures:
  - Make reasonable effort to locate owner
  - Contact authorized agent
  - Request entry before entering

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When Entry is Denied

- Pursue lawful remedies:
  - Administrative Warrant
  - Court order
  - Law Enforcement Assistance

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Modifications (104.2.3)

- Practical difficulties prevent strict compliance
- A special individual reason makes literal compliance impractical
- The modification meets the intent and purpose of the code
- Health, life, fire safety, and structural integrity are NOT reduced

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Alternative materials, designs, and methods (104.2.2)

- The code does not prohibit:
  - New materials
  - Innovative designs
  - Alternative construction methods

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Alternative materials, designs, and methods (104.2.2)

- Can approve alternatives if:
  - Complies with the intent of the code
  - Equivalent or better:
    - Quality
    - Strength
    - Effectiveness
    - Durability
    - Safety, other than fire safety
    - Fire safety

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Tests (104.2.2.5)

- Test to demonstrate equivalency:
  - Sufficient to predict performance of the end use configuration
  - Performed by a party acceptable to the BO

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Reports (104.2.2.6)

- Evaluation Reports
  - Issued by an approved agency
  - Within the scope of the BO's recognition of the approved agency
  - Approved by the BO for the installation
  - Criteria used for the evaluation shall be identified
- Other Reports
  - Describe criteria, including referenced testing or analysis
  - Prepared by:
    - Qualified engineer
    - Specialist
    - Laboratory
    - Specialty organization acceptable to the BO
  - The BO can require reports to be stamped by a registered design professional

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Final Decisions (R104.7.3)

- In writing
- Retained in official records
- This ensures:
  - Transparency
  - Decision will be defensible
  - Due Process

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What Inspectors Can Require

- Approved plans on site
- Engineering when required by code
- Manufacturer's installation instructions
- Access to work for inspections
- Corrections to be made before approval is given

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What Inspectors CANNOT do

- Waive code requirements
- Enforce personal preferences or standard practices
- Require upgrades not mandated by code
- Design the project
- Impose rules outside adopted codes or ordinances
- Force entry for an inspection without due process

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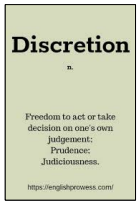
Discretion

- The authority to make judgment calls.
- Must meet the intent of the code.
- Again, cannot waive code requirements.



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Discretion is:

- Not arbitrary
- Not based on preference
- Not emotional
- Not personal
- Not creating unequal enforcement
- Code-based
- Documented
- Defensible
- Consistent

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When Discretion is Appropriate

- Minor field conflicts
- Equivalent protection situations
- Clarifying ambiguous language
- Modifications per R104.10

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Risks of Misuse of Discretion

- Legal liabilities
- Complaints to the BO, mayor, council, etc.
- Appeals
- Loss of credibility
- Loss of public trust
- Certification/licensure consequences

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Scenario #1

A builder requests a modification due to site constraints. It technically violates a prescriptive requirement but may meet intent.

What is required before approval?

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Scenario #2

You observe work that technically complies with code but appears poorly constructed and not best practice.

Can you fail it?

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Scenario #3

A contractor installs a product not specifically listed in the code but provides testing documentation showing equivalent performance.

Do you approve it?

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10- Career Development

- **Create your own opportunities, don't wait for them to come to you!**
  - Codes change and evolve, so should you
  - Growth creates opportunities
  - The best inspectors are those that never stop learning
  - This is a profession, not just a job

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Never Stop Learning

- Commit to continuous improvement
- Read code updates and go to code update classes regularly
- Ask "why" not just "what"
- Learn from contractors and others in the industry
- Study areas outside of your area of expertise and daily job duties

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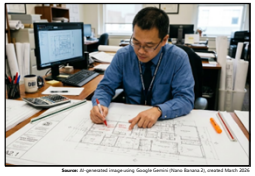
Plan Review

- Learning plan review and doing it on a regular basis will make you a better inspector
- Improves consistency and confidence
- Helps gain understanding of the full scope of the project
- Increases your value to your department



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Certifications

- More certifications = more credibility
- Expand beyond your primary discipline/job duties
- Residential → Commercial → Specialty
- Demonstrates a commitment to your profession
- Makes you more valuable to your department
- Positions you for promotions

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Get your CBO

- Deeper code knowledge
- Leadership development
- Administrative and legal understanding
- Better understanding of what your BO is dealing with
- Adds value to your department
- Opens doors to management positions

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Training & Conferences

- Find time, even when you are busy
- ICC seminars and chapter meetings/trainings
- Manufacturer or technical trainings
- Network with other jurisdictions

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Take the Classes You Don't Think You Need

- Growth happens outside of our comfort zone
- You will always learn something
- Different Instructors bring new perspectives
- Reinforcement builds mastery

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Avoid Traps!

- I already know that
- I don't need to know that
- This is the way we have always done it

Photo courtesy of Pixabay

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Invest in Yourself

- Find a mentor
- Seek out opportunities
- Volunteer for complex projects
- Look for holes in your department and find a way to fill them
- Ask to cross-train
- Set attainable professional goals

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11- We are Code Professionals

- We are code officials, not just rule enforcers.
- We protect life, safety, and public welfare.
- We interpret and apply adopted codes and laws.
- We are the faces of our jurisdictions.

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Inspectors as Professionals

- We are code officials, not just rule enforcers.
- We protect life, safety, and public welfare.
- We interpret and apply adopted codes and laws.
- We are the faces of our jurisdictions.

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What Makes a Professional

- Consistent application of the code
- Respectful communication
- Competence
  - Know the code
  - Know what you don't know
- Emotional Control
- Accountability

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Identity Under Pressure

- Overworked, understaffed, tight schedules
- Angry contractors and homeowners
- Political pressure
- Repeat offenders
- Who do you want to be when things get hard?

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Emotional Control = Professional Control

- Don't match emotion with emotion
- Slow the conversation down
- Stick to the facts
  - Reference the code
  - Keep opinions and personal feelings out
- Know your audience
  - Explain things in a way they can understand+
  - Don't talk down to people
- Put yourself in their position

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Fairness and Consistency

- Consistent interpretations of the code
- Same project type = same expectations
- Consistent enforcement
- No special treatment

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Departmental Consistency

- Get on the same page
  - All inspectors in the department should enforce the same codes the same way.
  - Talk to your plans examiners!
  - Discuss grey areas internally
  - How does your department interpret/enforce vague or confusing code requirements.
- Document department policies

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Departmental Alignment

- Don't debate with another inspector or plans examiner in front of the contractor or homeowner
- Resolve differences internally
- Once a decision is made – support it
- Present a unified front

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Reputation

- Be firm, but fair
- Be clear
- Remain calm, don't react
- Be consistent
- Set and meet expectations

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We Set the Standard

- We are public safety officials
- We enforce the codes
- We gain respect through consistency
- We lead by example
- We protect the integrity of the profession
- Professionalism is not situational, it is intentional!

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Thank you!

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